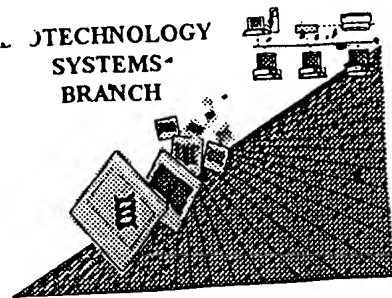


1011

RAW SEQUENCE LISTING ERROR REPORT

TECHNOLOGY
SYSTEMS
BRANCH



The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) detected errors when processing the following computer readable form:

Application Serial Number: 09/749728
Source: O I P E
Date Processed by STIC: 10/03/01

THE ATTACHED PRINTOUT EXPLAINS DETECTED ERRORS.
PLEASE FORWARD THIS INFORMATION TO THE APPLICANT BY EITHER:

- 1) INCLUDING A COPY OF THIS PRINTOUT IN YOUR NEXT COMMUNICATION TO THE APPLICANT, WITH A NOTICE TO COMPLY or,
- 2) TELEPHONING APPLICANT AND FAXING A COPY OF THIS PRINTOUT, WITH A NOTICE TO COMPLY

FOR CRF SUBMISSION QUESTIONS, PLEASE CONTACT MARK SPENCER, 703-308-4212.

FOR SEQUENCE RULES INTERPRETATION, PLEASE CONTACT ROBERT WAX, 703-308-4216.
PATENTIN 2.1 e-mail help: patin21help@uspto.gov or phone 703-306-4119 (R. Wax)
PATENTIN 3.0 e-mail help: patin3help@uspto.gov or phone 703-306-4119 (R. Wax)

TO REDUCE ERRORED SEQUENCE LISTINGS, PLEASE USE THE CHECKER
VERSION 3.0 PROGRAM, ACCESSIBLE THROUGH THE U.S. PATENT AND
TRADEMARK OFFICE WEBSITE. SEE BELOW:

Checker Version 3.0

The Checker Version 3.0 application is a state-of-the-art Windows based software program employing a logical and intuitive user-interface to check whether a sequence listing is in compliance with format and content rules. Checker Version 3.0 works for sequence listings generated for the original version of 37 CFR §§1.821 - 1.825 effective October 1, 1990 (old rules) and the revised version (new rules) effective July 1, 1998 as well as World Intellectual Property Organization (WIPO) Standard ST.25. Checker Version 3.0 replaces the previous DOS-based version of Checker, and is Y2K-compliant. Checker allows public users to check sequence listings in Computer Readable form (CRF) before submitting them to the United States Patent and Trademark Office (USPTO). Use of Checker prior to filing the sequence listing is expected to result in fewer errored sequence listings, thus saving time and money.

Checker Version 3.0 can be down loaded from the USPTO website at the following address:
<http://www.uspto.gov/web/offices/pac/checker>

Raw Sequence Listing Error Summary

ERROR DETECTED

SUGGESTED CORRECTION

SERIAL NUMBER: 09749728

ATTN: NEW RULES CASES: PLEASE DISREGARD ENGLISH "ALPHA" HEADERS, WHICH WERE INSERTED BY PTO SOFT

1 ☒ Wrapped Nucleics
Wrapped Aminos

The number/text at the end of each line "wrapped" down to the next line. This may occur if your file was retrieved in a word processor after creating it. Please adjust your right margin to .3; this will prevent "wrapping."

2 ☐ Invalid Line Length

The rules require that a line not exceed 72 characters in length. This includes white spaces.

3 ☐ Misaligned Amino
Numbering

The numbering under each 5th amino acid is misaligned. Do not use tab codes between numbers; use space characters, instead.

4 ☐ Non-ASCII

The submitted file was not saved in ASCII(DOS) text, as required by the Sequence Rules. Please ensure your subsequent submission is saved in ASCII text.

5 ☐ Variable Length

Sequence(s) contain n's or Xaa's representing more than one residue. Per Sequence Rules, each n or Xaa can only represent a single residue. Please present the maximum number of each residue having variable length and indicate in the <220>-<223> section that some may be missing.

6 ☐ PatentIn 2.0
"bug"

A "bug" in PatentIn version 2.0 has caused the <220>-<223> section to be missing from amino acid sequences(s). Normally, PatentIn would automatically generate this section from the previously coded nucleic acid sequence. Please manually copy the relevant <220>-<223> section to the subsequent amino acid sequence. This applies to the mandatory <220>-<223> sections for Artificial or Unknown sequences.

7 ☐ Skipped Sequences
(OLD RULES)

Sequence(s) missing. If intentional, please insert the following lines for each skipped sequence:
(2) INFORMATION FOR SEQ ID NO:X: (insert SEQ ID NO where "X" is shown)
(i) SEQUENCE CHARACTERISTICS: (Do not insert any subheadings under this heading)
(xi) SEQUENCE DESCRIPTION:SEQ ID NO:X: (insert SEQ ID NO where "X" is shown)
This sequence is intentionally skipped

Please also adjust the "(ii) NUMBER OF SEQUENCES:" response to include the skipped sequences.

8 ☐ Skipped Sequences
(NEW RULES)

Sequence(s) missing. If intentional, please insert the following lines for each skipped sequence.
<210> sequence id number
<400> sequence id number
000

9 ☐ Use of n's or Xaa's
(NEW RULES)

Use of n's and/or Xaa's have been detected in the Sequence Listing.
Per 1.823 of Sequence Rules, use of <220>-<223> is MANDATORY if n's or Xaa's are present.
In <220> to <223> section, please explain location of n or Xaa, and which residue n or Xaa represents.

10 ☐ Invalid <213>
Response

Per 1.823 of Sequence Rules, the only valid <213> responses are: Unknown, Artificial Sequence, or scientific name (Genus/species). <220>-<223> section is required when <213> response is Unknown or is Artificial Sequence

11 ☐ Use of <220>

Sequence(s) missing the <220> "Feature" and associated numeric identifiers and responses.
Use of <220> to <223> is MANDATORY if <213> "Organism" response is "Artificial Sequence" or "Unknown." Please explain source of genetic material in <220> to <223> section.
(See "Federal Register," 06/01/1998, Vol. 63, No. 104, pp. 29631-32) (Sec. 1.823 of Sequence Rules)

12 ☐ PatentIn 2.0
"bug"

Please do not use "Copy to Disk" function of PatentIn version 2.0. This causes a corrupted file, resulting in missing mandatory numeric identifiers and responses (as indicated on raw sequence listing). Instead, please use "File Manager" or any other manual means to copy file to floppy disk.

13 ☐ Misuse of n

n can only be used to represent a single nucleotide in a nucleic acid sequence. N is not used to represent any value not specifically a nucleotide.

OIFE

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/749,728

DATE: 10/03/2001

TIME: 15:39:28

Input Set : A:\pto_vsk.txt

Output Set: N:\CRF3\10032001\I749728.raw

3 <110> APPLICANT: KYOWA HAKKO KOGYO CO., LTD
 5 THE CELL HAVING THE POTENTIALITY OF DIFFERENTIATION
 E--> 5 <111> THE CELL HAVING THE POTENTIALITY OF DIFFERENTIATION
 6 INTO CARDIOMYOCYTES
 W--> 0 <120> TITLE INVENTION:
 8 <130> FILE REFERENCE: 11217WO3
 C--> 10 <140> CURRENT APPLICATION NUMBER: US/09/749,728
 C--> 11 <141> CURRENT FILING DATE: 2001-09-17
 13 <150> PRIOR APPLICATION NUMBER: H11-372826
 14 <151> PRIOR FILING DATE: 1999-12-28
 16 <150> PRIOR APPLICATION NUMBER: PCT-JP00-01148
 17 <151> PRIOR FILING DATE: 2000-02-28
 19 <150> PRIOR APPLICATION NUMBER: PCT-JP00-07741
 20 <151> PRIOR FILING DATE: 2000-11-02
 22 <160> NUMBER OF SEQ ID NOS: 80
 24 <170> SOFTWARE: PatentIn Ver.2.0

Does Not Comply
 Corrected Diskette Needed

Wrapped Amino Strings
 See Error Summary Sheet

ERRORED SEQUENCES

26 <210> SEQ ID NO: 1
 27 <211> LENGTH: 411
 28 <212> TYPE: PRT
 29 <213> ORGANISM: Homo sapiens
 W--> 30 <400> SEQUENCE: 1
 31 Met Arg Ala His Pro Gly Gly Gly Arg Cys Cys Pro Glu Gln Glu
 E--> 32 Glu
 E--> 33 1 5 10 15
 34 Gly Glu Ser Ala Ala Gly Gly Ser Gly Ala Gly Gly Asp Ser Ala
 E--> 35 Ile
 E--> 37 20 25 30
 38 Glu Gln Gly Gly Gln Gly Ser Ala Leu Ala Pro Ser Pro Val Ser
 E--> 39 Gly
 E--> 40 35 40 45
 41 Val Arg Arg Glu Gly Ala Arg Gly Gly Gly Arg Gly Arg Gly Arg
 E--> 42 Trp
 E--> 43 50 55 60
 44 Lys Gln Ala Gly Arg Gly Gly Gly Val Cys Gly Arg Gly Arg Gly
 E--> 45 Arg
 E--> 46 65 70 75
 E--> 47 80
 48 Gly Arg Gly Arg Gly Arg Gly Arg Gly Arg Gly Arg Gly
 E--> 49 Arg
 E--> 50 85 90 95
 51 Pro Pro Ser Gly Gly Ser Gly Leu Gly Gly Asp Gly Gly Gly Cys
 E--> 52 Gly
 E--> 53 100 105 110

Amino acid format
 is not acceptable

Amino acid
 numbering must be
 aligned beneath each
 row of amino acids.

It is preferred that
 amino sequences
 are arranged 16 amino
 acids per line.

The type of errors shown exist throughout
 the Sequence Listing. Please check subsequent
 sequences for similar errors.

RAW SEQUENCE LISTING
 PATENT APPLICATION: US/09/749,728

DATE: 10/03/2001
 TIME: 15:39:28

Input Set : A:\pto_vsk.txt
 Output Set: N:\CRF3\10032001\I749728.raw

```

54 Gly Gly Gly Ser Gly Gly Gly Gly Ala Pro Arg Arg Glu Pro Val
E--> 55 Pro
E--> 56          115          120          125
57 Phe Pro Ser Gly Ser Ala Gly Pro Gly Pro Arg Gly Pro Arg Ala
E--> 58 Thr
E--> 59          130          135          140
60 Glu Ser Gly Lys Arg Met Asp Cys Pro Ala Leu Pro Pro Gly Trp
E--> 61 Lys
E--> 62 145          150          155
E--> 63 160
64 Lys Glu Glu Val Ile Arg Lys Ser Gly Leu Ser Ala Gly Lys Ser
E--> 65 Asp
E--> 66          165          170          175
67 Val Tyr Tyr Phe Ser Pro Ser Gly Lys Lys Phe Arg Ser Lys Pro
E--> 68 Gln
E--> 69          180          185          190
70 Leu Ala Arg Tyr Leu Gly Asn Thr Val Asp Leu Ser Ser Phe Asp
E--> 71 Phe
E--> 72          195          200          205
73 Arg Thr Gly Lys Met Met Pro Ser Lys Leu Gln Lys Asn Lys Gln
E--> 74 Arg
E--> 75          210          215          220
76 Leu Arg Asn Asp Pro Leu Asn Gln Asn Lys Gly Lys Pro Asp Leu
E--> 77 Asn
E--> 78 225          230          235
E--> 79 240
80 Thr Thr Leu Pro Ile Arg Gln Thr Ala Ser Ile Phe Lys Gln Pro
E--> 81 Val
E--> 82          245          250          255
83 Thr Lys Val Thr Asn His Pro Ser Asn Lys Val Lys Ser Asp Pro
E--> 84 Gln
E--> 85          260          265          270
86 Arg Met Asn Glu Gln Pro Arg Gln Leu Phe Trp Glu Lys Arg Leu
E--> 87 Gln
E--> 88          275          280          285
89 Gly Leu Ser Ala Ser Asp Val Thr Glu Gln Ile Ile Lys Thr Met
E--> 90 Glu
E--> 91          290          295          300
92 Leu Pro Lys Gly Leu Gln Gly Val Gly Pro Gly Ser Asn Asp Glu
E--> 93 Thr
E--> 94 305          310          315
E--> 95 320
96 Leu Leu Ser Ala Val Ala Ser Ala Leu His Thr Ser Ser Ala Pro
E--> 97 Ile
E--> 98          325          330          335
99 Thr Gly Gln Val Ser Ala Ala Val Glu Lys Asn Pro Ala Val Trp
E--> 100 Leu
E--> 101          340          345          350
102 Asn Thr Ser Gln Pro Leu Cys Lys Ala Phe Ile Val Thr Asp Glu

```

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/749,728

DATE: 10/03/2001
TIME: 15:39:28

Input Set : A:\pto_vsk.txt
Output Set: N:\CRF3\10032001\I749728.raw

```

E--> 103 Asp
E--> 104          355          360          365
      105 Ile Arg Lys Gln Glu Glu Arg Val Gln Gln Val Arg Lys Lys Leu
E--> 106 Glu
E--> 107          370          375          380
      108 Glu Ala Leu Met Ala Asp Ile Leu Ser Arg Ala Ala Asp Thr Glu
E--> 109 Glu
E--> 110 385          390          395
E--> 111 400
      112 Met Asp Ile Glu Met Asp Ser Gly Asp Glu Ala
E--> 113          405          410
      114 <210> SEQ ID NO: 2
      115 <211> LENGTH: 1233
      116 <212> TYPE: DNA
      117 <213> ORGANISM: Homo sapiens
W--> 118 <220> FEATURE:
      119 <221> NAME/KEY: CDS
      120 <223> OTHER INFORMATION: (1)..(1236)
W--> 121 <400> SEQUENCE: 2
E--> 122 atg cgc gcg cac ccg ggg gga ggc cgc tgc tgc ccg gag cag gag
      123 gag 48
      124 Met Arg Ala His Pro Gly Gly Gly Arg Cys Cys Pro Glu Gln Glu
W--> 125 Glu
W--> 126 1          5          10          15
E--> 127 ggg gag agt gcg gcg ggc ggc agc ggc gct ggc ggc gac tcc gcc
      128 ata 96
      129 Gly Glu Ser Ala Ala Gly Gly Ser Gly Ala Gly Gly Asp Ser Ala
W--> 130 Ile
W--> 131          20          25          30
E--> 132 gag cag ggg ggc cag ggc agc gcg ctc gcc ccg tcc ccg gtg agc
      133 ggc 144
      134 Glu Gln Gly Gly Gln Gly Ser Ala Leu Ala Pro Ser Pro Val Ser
W--> 135 Gly
W--> 136          35          40          45
E--> 137 gtg cgc agg gaa ggc gct cgg ggc ggc ggc cgt ggc cgg ggg cgg
      138 tgg 192
      139 Val Arg Arg Glu Gly Ala Arg Gly Gly Gly Arg Gly Arg Gly Arg
W--> 140 Trp
W--> 141          50          55          60
E--> 142 aag cag gcg ggc cgg ggc ggc ggc gtc tgt ggc cgt ggc cgg ggc
      143 cgg 240
      144 Lys Gln Ala Gly Arg Gly Gly Gly Val Cys Gly Arg Gly Arg Gly
W--> 145 Arg
W--> 146 65          70          75
E--> 147 80
E--> 148 ggc cgt ggc cgg gga cgg gga cgg ggc cgg ggc cgg ggc cgc ggc
      149 cgt 288
      150 Gly Arg Gly Arg Gly Arg Gly Arg Gly Arg Gly Arg Gly
W--> 151 Arg

```

RAW SEQUENCE LISTING
 PATENT APPLICATION: US/09/749,728

DATE: 10/03/2001
 TIME: 15:39:28

Input Set : A:\pto_vsk.txt
 Output Set: N:\CRF3\10032001\I749728.raw

```

W--> 152                85                90                95
E--> 153 ccc ccg agt ggc ggc agc ggc ctt ggc ggc gac ggc ggc ggc tgc
      154 ggc      336
      155 Pro Pro Ser Gly Gly Ser Gly Leu Gly Gly Asp Gly Gly Gly Cys
W--> 156 Gly
W--> 157                100                105                110
E--> 158 ggc ggc ggc agc ggt ggc ggc ggc gcc ccc cgg cgg gag ccg gtc
      159 cct      384
      160 Gly Gly Gly Ser Gly Gly Gly Gly Ala Pro Arg Arg Glu Pro Val
W--> 161 Pro
W--> 162                115                120                125
E--> 163 ttc ccg tcg ggg agc gcg ggg ccg ggg ccc agg gga ccc cgg gcc
      164 acg      432
      165 Phe Pro Ser Gly Ser Ala Gly Pro Gly Pro Arg Gly Pro Arg Ala
W--> 166 Thr
W--> 167                130                135                140
E--> 168 gag agc ggg aag agg atg gat tgc ccg gcc ctc ccc ccc gga tgg
      169 aag      480
      170 Glu Ser Gly Lys Arg Met Asp Cys Pro Ala Leu Pro Pro Gly Trp
W--> 171 Lys
W--> 172 145                150                155
E--> 173 160
E--> 174 aag gag gaa gtg atc cga aaa tct ggg cta agt gct ggc aag agc
      175 gat      528
      176 Lys Glu Glu Val Ile Arg Lys Ser Gly Leu Ser Ala Gly Lys Ser
W--> 177 Asp
W--> 178                165                170                175
E--> 179 gtc tac tac ttc agt cca agt ggt aag aag ttc aga agc aag cct
      180 cag      576
      181 Val Tyr Tyr Phe Ser Pro Ser Gly Lys Lys Phe Arg Ser Lys Pro
W--> 182 Gln
W--> 183                180                185                190
E--> 184 ttg gca agg tac ctg gga aat act gtt gat ctc agc agt ttt gac
      185 ttc      624
      186 Leu Ala Arg Tyr Leu Gly Asn Thr Val Asp Leu Ser Ser Phe Asp
W--> 187 Phe
W--> 188                195                200                205
E--> 189 aga act gga aag atg atg cct agt aaa tta cag aag aac aaa cag
      190 aga      672
      191 Arg Thr Gly Lys Met Met Pro Ser Lys Leu Gln Lys Asn Lys Gln
W--> 192 Arg
W--> 193                210                215                220
E--> 194 ctg cga aac gat cct ctc aat caa aat aag ggt aaa cca gac ttg
      195 aat      720
      196 Leu Arg Asn Asp Pro Leu Asn Gln Asn Lys Gly Lys Pro Asp Leu
W--> 197 Asn
W--> 198 225                230                235
E--> 199 240
E--> 200 aca aca ttg cca att aga caa aca gca tca att ttc aaa caa ccg
  
```

RAW SEQUENCE LISTING
 PATENT APPLICATION: US/09/749,728

DATE: 10/03/2001

TIME: 15:39:28

Input Set : A:\pto_vsk.txt
 Output Set: N:\CRF3\10032001\I749728.raw

```

201 gta 768
202 Thr Thr Leu Pro Ile Arg Gln Thr Ala Ser Ile Phe Lys Gln Pro
W--> 203 Val
W--> 204 245 250 255
E--> 205 acc aaa gtc aca aat cat cct agt aat aaa gtg aaa tca gac cca
206 caa 816
207 Thr Lys Val Thr Asn His Pro Ser Asn Lys Val Lys Ser Asp Pro
W--> 208 Gln
W--> 209 260 265 270
E--> 210 cga atg aat gaa cag cca cgt cag ctt ttc tgg gag aag agg cta
211 caa 864
212 Arg Met Asn Glu Gln Pro Arg Gln Leu Phe Trp Glu Lys Arg Leu
W--> 213 Gln
W--> 214 275 280 285
E--> 215 gga ctt agt gca tca gat gta aca gaa caa att ata aaa acc atg
216 gaa 912
217 Gly Leu Ser Ala Ser Asp Val Thr Glu Gln Ile Ile Lys Thr Met
W--> 218 Glu
W--> 219 290 295 300
E--> 220 cta ccc aaa ggt ctt caa gga gtt ggt cca ggt agc aat gat gag
221 acc 960
222 Leu Pro Lys Gly Leu Gln Gly Val Gly Pro Gly Ser Asn Asp Glu
W--> 223 Thr
W--> 224 305 310 315
E--> 225 320
E--> 226 ctt tta tct gct gtt gcc agt gct ttg cac aca agc tct gcg cca
227 atc 1008
228 Leu Leu Ser Ala Val Ala Ser Ala Leu His Thr Ser Ser Ala Pro
W--> 229 Ile
W--> 230 325 330 335
E--> 231 aca ggg caa gtc tcc gct gct gtg gaa aag aac cct gct gtt tgg
232 ctt 1056
233 Thr Gly Gln Val Ser Ala Ala Val Glu Lys Asn Pro Ala Val Trp
W--> 234 Leu
W--> 235 340 345 350
E--> 236 aac aca tct caa ccc ctc tgc aaa gct ttt att gtc aca gat gaa
237 gac 1104
238 Asn Thr Ser Gln Pro Leu Cys Lys Ala Phe Ile Val Thr Asp Glu
W--> 239 Asp
W--> 240 355 360 365
E--> 241 atc agg aaa cag gaa gag cga gta cag caa gta cgc aag aaa ttg
242 gaa 1152
243 Ile Arg Lys Gln Glu Glu Arg Val Gln Gln Val Arg Lys Lys Leu
W--> 244 Glu
W--> 245 370 375 380
E--> 246 gaa gca ctg atg gca gac atc ttg tcg cga gct gct gat aca gaa
247 gag 1200
248 Glu Ala Leu Met Ala Asp Ile Leu Ser Arg Ala Ala Asp Thr Glu
W--> 249 Glu

```

RAW SEQUENCE LISTING

DATE: 10/03/2001

PATENT APPLICATION: US/09/749,728

TIME: 15:39:28

Input Set : A:\pto_vsk.txt

Output Set: N:\CRF3\10032001\I749728.raw

```

W--> 250 385                      390                      395
E--> 251 400
E--> 252 atg gat att gaa atg gac agt gga gat gaa gcc
      253          1233
      254 Met Asp Ile Glu Met Asp Ser Gly Asp Glu Ala
W--> 255                      405                      410
      256 <210> SEQ ID NO: 3
      257 <211> LENGTH: 196
      258 <212> TYPE: PRT
      259 <213> ORGANISM: Homo sapiens
W--> 260 <400> SEQUENCE: 3
      261 Met Arg Thr Leu Ala Cys Leu Leu Leu Leu Gly Cys Gly Tyr Leu
E--> 262 Ala
E--> 263 1                      5                      10                      15
      264 His Val Leu Ala Glu Glu Ala Glu Ile Pro Arg Glu Val Ile Glu
E--> 265 Arg
E--> 266                      20                      25                      30
      267 Leu Ala Arg Ser Gln Ile His Ser Ile Arg Asp Leu Gln Arg Leu
E--> 268 Leu
E--> 269                      35                      40                      45
      270 Glu Ile Asp Ser Val Gly Ser Glu Asp Ser Leu Asp Thr Ser Leu
E--> 271 Arg
E--> 272 50                      55                      60
      273 Ala His Gly Val His Ala Thr Lys His Val Pro Glu Lys Arg Pro
E--> 274 Leu
E--> 275 65                      70                      75
E--> 276 80
      277 Pro Ile Arg Arg Lys Arg Ser Ile Glu Glu Ala Val Pro Ala Val
E--> 278 Cys
E--> 279                      85                      90                      95
      280 Lys Thr Arg Thr Val Ile Tyr Glu Ile Pro Arg Ser Gln Val Asp
E--> 281 Pro
E--> 282                      100                      105                      110
      283 Thr Ser Ala Asn Phe Leu Ile Trp Pro Pro Cys Val Glu Val Lys
E--> 284 Arg
E--> 285                      115                      120                      125
      286 Cys Thr Gly Cys Cys Asn Thr Ser Ser Val Lys Cys Gln Pro Ser
E--> 287 Arg
E--> 288 130                      135                      140
      289 Val His His Arg Ser Val Lys Val Ala Lys Val Glu Tyr Val Arg
E--> 290 Lys
E--> 291 145                      150                      155
E--> 292 160
      293 Lys Pro Lys Leu Lys Glu Val Gln Val Arg Leu Glu Glu His Leu
E--> 294 Glu
E--> 295                      165                      170                      175
      296 Cys Ala Cys Ala Thr Thr Ser Leu Asn Pro Asp Tyr Arg Glu Glu
E--> 297 Asp
E--> 298                      180                      185                      190

```

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/749,728

DATE: 10/03/2001
TIME: 15:39:28

Input Set : A:\pto_vsk.txt
Output Set: N:\CRF3\10032001\I749728.raw

```

299 Thr Asp Val Arg
E--> 300      195
301 <210> SEQ ID NO: 4
302 <211> LENGTH: 588
303 <212> TYPE: DNA
304 <213> ORGANISM: Homo sapiens
W--> 305 <220> FEATURE:
306 <221> NAME/KEY: CDS
307 <223> OTHER INFORMATION: (1)..(591)
W--> 308 <400> SEQUENCE: 4
E--> 309 atg agg acc ttg gct tgc ctg ctg ctc ctc ggc tgc gga tac ctc
310 gcc      48
311 Met Arg Thr Leu Ala Cys Leu Leu Leu Leu Gly Cys Gly Tyr Leu
W--> 312 Ala
E--> 313      1          5          10          15
314 cat gtt ctg gcc gag gaa gcc gag atc ccc cgc gag gtg atc gag
315 agg      96
316 His Val Leu Ala Glu Glu Ala Glu Ile Pro Arg Glu Val Ile Glu
W--> 317 Arg
E--> 318      20          25          30
319 ctg gcc cgc agt cag atc cac agc atc cgg gac ctc cag cga ctc
320 ctg      144
321 Leu Ala Arg Ser Gln Ile His Ser Ile Arg Asp Leu Gln Arg Leu
W--> 322 Leu
E--> 323      35          40          45
324 gag ata gac tcc gta ggg agt gag gat tct ttg gac acc agc ctg
325 aga      192
326 Glu Ile Asp Ser Val Gly Ser Glu Asp Ser Leu Asp Thr Ser Leu
W--> 327 Arg
E--> 328      50          55          60
329 gct cac ggg gtc cac gcc act aag cat gtg ccc gag aag cgg ccc
330 ctg      240
331 Ala His Gly Val His Ala Thr Lys His Val Pro Glu Lys Arg Pro
W--> 332 Leu
E--> 333      65          70          75
334      80
335 ccc att cgg agg aag aga agc atc gag gaa gct gtc ccc gct gtc
336 tgc      288
337 Pro Ile Arg Arg Lys Arg Ser Ile Glu Glu Ala Val Pro Ala Val
W--> 338 Cys
E--> 339      85          90          95
340 aag acc agg acg gtc att tac gag att cct cgg agt cag gtc gac
341 ccc      336
342 Lys Thr Arg Thr Val Ile Tyr Glu Ile Pro Arg Ser Gln Val Asp
W--> 343 Pro
E--> 344      100         105         110
345 acg tcc gcc aac ttc ctg atc tgg ccc ccg tgc gtg gag gtg aaa
346 cgc      384
347 Thr Ser Ala Asn Phe Leu Ile Trp Pro Pro Cys Val Glu Val Lys

```

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/749,728

DATE: 10/03/2001
TIME: 15:39:28

Input Set : A:\pto_vsk.txt
Output Set: N:\CRF3\10032001\I749728.raw

```

W--> 348 Arg
W--> 349          115          120          125
E--> 350 tgc acc ggc tgc tgc aac acg agc agt gtc aag tgc cag ccc tcc
      351 cgc 432
      352 Cys Thr Gly Cys Cys Asn Thr Ser Ser Val Lys Cys Gln Pro Ser
W--> 353 Arg
W--> 354          130          135          140
E--> 355 gtc cac cac cgc agc gtc aag gtg gcc aag gtg gaa tac gtc agg
      356 aag 480
      357 Val His His Arg Ser Val Lys Val Ala Lys Val Glu Tyr Val Arg
W--> 358 Lys
W--> 359 145          150          155
E--> 360 160
E--> 361 aag cca aaa tta aaa gaa gtc cag gtg agg tta gag gag cat ttg
      362 gag 528
      363 Lys Pro Lys Leu Lys Glu Val Gln Val Arg Leu Glu Glu His Leu
W--> 364 Glu
W--> 365          165          170          175
E--> 366 tgc gcc tgc gcg acc aca agc ctg aat ccg gat tat cgg gaa gag
      367 gac 576
      368 Cys Ala Cys Ala Thr Thr Ser Leu Asn Pro Asp Tyr Arg Glu Glu
W--> 369 Asp
W--> 370          180          185          190
E--> 371 acg gat gtg agg
      372 588
      373 Thr Asp Val Arg
W--> 374          195
      375 <210> SEQ ID NO: 5
      376 <211> LENGTH: 241
      377 <212> TYPE: PRT
      378 <213> ORGANISM: Homo sapiens
W--> 379 <400> SEQUENCE: 5
      380 Met Asn Arg Cys Trp Ala Leu Phe Leu Ser Leu Cys Cys Tyr Leu
E--> 381 Arg
E--> 382 1          5          10          15
      383 Leu Val Ser Ala Glu Gly Asp Pro Ile Pro Glu Glu Leu Tyr Glu
E--> 384 Met
E--> 385          20          25          30
      386 Leu Ser Asp His Ser Ile Arg Ser Phe Asp Asp Leu Gln Arg Leu
E--> 387 Leu
E--> 388          35          40          45
      389 His Gly Asp Pro Gly Glu Glu Asp Gly Ala Glu Leu Asp Leu Asn
E--> 390 Met
E--> 391          50          55          60
      392 Thr Arg Ser His Ser Gly Gly Glu Leu Glu Ser Leu Ala Arg Gly
E--> 393 Arg
E--> 394 65          70          75
E--> 395 80
      396 Arg Ser Leu Gly Ser Leu Thr Ile Ala Glu Pro Ala Met Ile Ala

```

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/749,728

DATE: 10/03/2001
TIME: 15:39:28

Input Set : A:\pto_vsk.txt
Output Set: N:\CRF3\10032001\I749728.raw

```

E--> 397 Glu
E--> 398                85                90                95
      399 Cys Lys Thr Arg Thr Glu Val Phe Glu Ile Ser Arg Arg Leu Ile
E--> 400 Asp
E--> 401                100                105                110
      402 Arg Thr Asn Ala Asn Phe Leu Val Trp Pro Pro Cys Val Glu Val
E--> 403 Gln
E--> 404                115                120                125
      405 Arg Cys Ser Gly Cys Cys Asn Asn Arg Asn Val Gln Cys Arg Pro
E--> 406 Thr
E--> 407                130                135                140
      408 Gln Val Gln Leu Arg Pro Val Gln Val Arg Lys Ile Glu Ile Val
E--> 409 Arg
E--> 410 145                150                155
E--> 411 160
      412 Lys Lys Pro Ile Phe Lys Lys Ala Thr Val Thr Leu Glu Asp His
E--> 413 Leu
E--> 414                165                170                175
      415 Ala Cys Lys Cys Glu Thr Val Ala Ala Ala Arg Pro Val Thr Arg
E--> 416 Ser
E--> 417                180                185                190
      418 Pro Gly Gly Ser Gln Glu Gln Arg Ala Lys Thr Pro Gln Thr Arg
E--> 419 Val
E--> 420                195                200                205
      421 Thr Ile Arg Thr Val Arg Val Arg Arg Pro Pro Lys Gly Lys His
E--> 422 Arg
E--> 423                210                215                220
      424 Lys Phe Lys His Thr His Asp Lys Thr Ala Leu Lys Glu Thr Leu
E--> 425 Gly
E--> 426 225                230                235
E--> 427 240
      428 Ala
      429 <210> SEQ ID NO: 6
      430 <211> LENGTH: 723
      431 <212> TYPE: DNA
      432 <213> ORGANISM: Homo sapiens
W--> 433 <220> FEATURE:
      434 <221> NAME/KEY: CDS
      435 <223> OTHER INFORMATION: (1)..(726)
W--> 436 <400> SEQUENCE: 6
E--> 437 atg aat cgc tgc tgg gcg ctc ttc ctg tct ctc tgc tgc tac ctg
      438 cgt 48
      439 Met Asn Arg Cys Trp Ala Leu Phe Leu Ser Leu Cys Cys Tyr Leu
W--> 440 Arg
W--> 441 1                5                10                15
E--> 442 ctg gtc agc gcc gag ggg gac ccc att ccc gag gag ctt tat gag
      443 atg 96
      444 Leu Val Ser Ala Glu Gly Asp Pro Ile Pro Glu Glu Leu Tyr Glu
W--> 445 Met

```

RAW SEQUENCE LISTING
 PATENT APPLICATION: US/09/749,728

DATE: 10/03/2001
 TIME: 15:39:28

Input Set : A:\pto_vsk.txt
 Output Set: N:\CRF3\10032001\I749728.raw

```

W--> 446                20                25                30
E--> 447 ctg agt gac cac tcg atc cgc tcc ttt gat gat ctc caa cgc ctg
      448 ctg      144
      449 Leu Ser Asp His Ser Ile Arg Ser Phe Asp Asp Leu Gln Arg Leu
W--> 450 Leu
W--> 451                35                40                45
E--> 452 cac gga gac ccc gga gag gaa gat ggg gcc gag ttg gac ctg aac
      453 atg      192
      454 His Gly Asp Pro Gly Glu Glu Asp Gly Ala Glu Leu Asp Leu Asn
W--> 455 Met
W--> 456                50                55                60
E--> 457 acc cgc tcc cac tct gga ggc gag ctg gag agc ttg gct cgt gga
      458 aga      240
      459 Thr Arg Ser His Ser Gly Gly Glu Leu Glu Ser Leu Ala Arg Gly
W--> 460 Arg
W--> 461 65                70                75
E--> 462 80
E--> 463 agg agc ctg ggt tcc ctg acc att gct gag ccg gcc atg atc gcc
      464 gag      288
      465 Arg Ser Leu Gly Ser Leu Thr Ile Ala Glu Pro Ala Met Ile Ala
W--> 466 Glu
W--> 467                85                90                95
E--> 468 tgc aag acg cgc acc gag gtg ttc gag atc tcc cgg cgc ctc ata
      469 gac      336
      470 Cys Lys Thr Arg Thr Glu Val Phe Glu Ile Ser Arg Arg Leu Ile
W--> 471 Asp
W--> 472                100                105                110
E--> 473 cgc acc aac gcc aac ttc ctg gtg tgg ccg ccc tgt gtg gag gtg
      474 cag      384
      475 Arg Thr Asn Ala Asn Phe Leu Val Trp Pro Pro Cys Val Glu Val
W--> 476 Gln
W--> 477                115                120                125
E--> 478 cgc tgc tcc ggc tgc tgc aac aac cgc aac gtg cag tgc cgc ccc
      479 acc      432
      480 Arg Cys Ser Gly Cys Cys Asn Asn Arg Asn Val Gln Cys Arg Pro
W--> 481 Thr
W--> 482                130                135                140
E--> 483 cag gtg cag ctg cga cct gtc cag gtg aga aag atc gag att gtg
      484 cgg      480
      485 Gln Val Gln Leu Arg Pro Val Gln Val Arg Lys Ile Glu Ile Val
W--> 486 Arg
W--> 487 145                150                155
E--> 488 160
E--> 489 aag aag cca atc ttt aag aag gcc acg gtg acg ctg gaa gac cac
      490 ctg      528
      491 Lys Lys Pro Ile Phe Lys Lys Ala Thr Val Thr Leu Glu Asp His
W--> 492 Leu
W--> 493                165                170                175
E--> 494 gca tgc aag tgt gag aca gtg gca gct gca cgg cct gtg acc cga

```

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/749,728

DATE: 10/03/2001
TIME: 15:39:28

Input Set : A:\pto_vsk.txt
Output Set: N:\CRF3\10032001\I749728.raw

```

495 agc      576
496 Ala Cys Lys Cys Glu Thr Val Ala Ala Ala Arg Pro Val Thr Arg
W--> 497 Ser
W--> 498              180              185              190
E--> 499 ccg ggg ggt tcc cag gag cag cga gcc aaa acg ccc caa act cgg
500 gtg      624
501 Pro Gly Gly Ser Gln Glu Gln Arg Ala Lys Thr Pro Gln Thr Arg
W--> 502 Val
W--> 503              195              200              205
E--> 504 acc att cgg acg gtg cga gtc cgc cgg ccc ccc aag ggc aag cac
505 cgg      672
506 Thr Ile Arg Thr Val Arg Val Arg Arg Pro Pro Lys Gly Lys His
W--> 507 Arg
W--> 508              210              215              220
E--> 509 aaa ttc aag cac acg cat gac aag acg gca ctg aag gag acc ctt
510 gga      720
511 Lys Phe Lys His Thr His Asp Lys Thr Ala Leu Lys Glu Thr Leu
W--> 512 Gly
W--> 513 225              230              235
E--> 514 240
E--> 515 gcc
516              723
517 Ala
518 <210> SEQ ID NO: 7
519 <211> LENGTH: 155
520 <212> TYPE: PRT
521 <213> ORGANISM: Homo sapiens
W--> 522 <400> SEQUENCE: 7
523 Met Ala Ala Gly Ser Ile Thr Thr Leu Pro Ala Leu Pro Glu Asp
E--> 524 Gly
E--> 525 1              5              10              15
526 Gly Ser Gly Ala Phe Pro Pro Gly His Phe Lys Asp Pro Lys Arg
E--> 527 Leu
E--> 528              20              25              30
529 Tyr Cys Lys Asn Gly Gly Phe Phe Leu Arg Ile His Pro Asp Gly
E--> 530 Arg
E--> 531              35              40              45
532 Val Asp Gly Val Arg Glu Lys Ser Asp Pro His Ile Lys Leu Gln
E--> 533 Leu
E--> 534 50              55              60
535 Gln Ala Glu Glu Arg Gly Val Val Ser Ile Lys Gly Val Cys Ala
E--> 536 Asn
E--> 537 65              70              75
E--> 538 80
539 Arg Tyr Leu Ala Met Lys Glu Asp Gly Arg Leu Leu Ala Ser Lys
E--> 540 Cys
E--> 541              85              90              95
542 Val Thr Asp Glu Cys Phe Phe Phe Glu Arg Leu Glu Ser Asn Asn
E--> 543 Tyr

```

*amino numbering
must appear beneath
amino strings*

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/749,728

DATE: 10/03/2001
TIME: 15:39:28

Input Set : A:\pto_vsk.txt
Output Set: N:\CRF3\10032001\I749728.raw

```

E--> 544          100          105          110
      545 Asn Thr Tyr Arg Ser Arg Lys Tyr Thr Ser Trp Tyr Val Ala Leu
E--> 546 Lys
E--> 547          115          120          125
      548 Arg Thr Gly Gln Tyr Lys Leu Gly Ser Lys Thr Gly Pro Gly Gln
E--> 549 Lys
E--> 550          130          135          140
      551 Ala Ile Leu Phe Leu Pro Met Ser Ala Lys Ser
E--> 552 145          150
      553 <210> SEQ ID NO: 8
      554 <211> LENGTH: 465
      555 <212> TYPE: DNA
      556 <213> ORGANISM: Homo sapiens
W--> 557 <220> FEATURE:
      558 <221> NAME/KEY: CDS
      559 <223> OTHER INFORMATION: (1)..(468)
W--> 560 <400> SEQUENCE: 8
E--> 561 atg gca gcc ggg agc atc acc acg ctg ccc gcc ttg ccc gag gat
      562 ggc 48
      563 Met Ala Ala Gly Ser Ile Thr Thr Leu Pro Ala Leu Pro Glu Asp
W--> 564 Gly
W--> 565 1          5          10          15
E--> 566 ggc agc ggc gcc ttc ccg ccc ggc cac ttc aag gac ccc aag cgg
      567 ctg 96
      568 Gly Ser Gly Ala Phe Pro Pro Gly His Phe Lys Asp Pro Lys Arg
W--> 569 Leu
W--> 570          20          25          30
E--> 571 tac tgc aaa aac ggg ggc ttc ttc ctg cgc atc cac ccc gac ggc
      572 cga 144
      573 Tyr Cys Lys Asn Gly Gly Phe Phe Leu Arg Ile His Pro Asp Gly
W--> 574 Arg
W--> 575          35          40          45
E--> 576 gtt gac ggg gtc cgg gag aag agc gac cct cac atc aag cta caa
      577 ctt 192
      578 Val Asp Gly Val Arg Glu Lys Ser Asp Pro His Ile Lys Leu Gln
W--> 579 Leu
W--> 580          50          55          60
E--> 581 caa gca gaa gag aga gga gtt gtg tct atc aaa gga gtg tgt gct
      582 aac 240
      583 Gln Ala Glu Glu Arg Gly Val Val Ser Ile Lys Gly Val Cys Ala
W--> 584 Asn
W--> 585          65          70          75
E--> 586 80
E--> 587 cgt tac ctg gct atg aag gaa gat gga aga tta ctg gct tct aaa
      588 tgt 288
      589 Arg Tyr Leu Ala Met Lys Glu Asp Gly Arg Leu Leu Ala Ser Lys
W--> 590 Cys
W--> 591          85          90          95
E--> 592 gtt acg gat gag tgt ttc ttt ttt gaa cga ttg gaa tct aat aac

```

*amino numbering
must appear beneath
amino strings*

RAW SEQUENCE LISTING
 PATENT APPLICATION: US/09/749,728

DATE: 10/03/2001
 TIME: 15:39:28

Input Set : A:\pto_vsk.txt
 Output Set: N:\CRF3\10032001\I749728.raw

```

593 tac      336
594 Val Thr Asp Glu Cys Phe Phe Phe Glu Arg Leu Glu Ser Asn Asn
W--> 595 Tyr
W--> 596      100      105      110
E--> 597 aat act tac cgg tca agg aaa tac acc agt tgg tat gtg gca ttg
598 aaa      384
599 Asn Thr Tyr Arg Ser Arg Lys Tyr Thr Ser Trp Tyr Val Ala Leu
W--> 600 Lys
W--> 601      115      120      125
E--> 602 cga act ggg cag tat aaa ctt gga tcc aaa aca gga cct ggg cag
603 aaa      432
604 Arg Thr Gly Gln Tyr Lys Leu Gly Ser Lys Thr Gly Pro Gly Gln
W--> 605 Lys
W--> 606      130      135      140
E--> 607 gct ata ctt ttt ctt cca atg tct gct aag agc
608      465
609 Ala Ile Leu Phe Leu Pro Met Ser Ala Lys Ser
W--> 610 145      150      155
611 <210> SEQ ID NO: 9
612 <211> LENGTH: 324
613 <212> TYPE: PRT
614 <213> ORGANISM: Homo sapiens
W--> 615 <400> SEQUENCE: 9
616 Met Phe Pro Ser Pro Ala Leu Thr Pro Thr Pro Phe Ser Val Lys
E--> 617 Asp
E--> 618 1      5      10      15
619 Ile Leu Asn Leu Glu Gln Gln Gln Arg Ser Leu Ala Ala Ala Gly
E--> 620 Glu
E--> 621      20      25      30
622 Leu Ser Ala Arg Leu Glu Ala Thr Leu Ala Pro Ser Ser Cys Met
E--> 623 Leu
E--> 624      35      40      45
625 Ala Ala Phe Lys Pro Glu Ala Tyr Ala Gly Pro Glu Ala Ala Ala
E--> 626 Pro
E--> 627      50      55      60
628 Gly Leu Pro Glu Leu Arg Ala Glu Leu Gly Arg Ala Pro Ser Pro
E--> 629 Ala
E--> 630 65      70      75
E--> 631 80
632 Lys Cys Ala Ser Ala Phe Pro Ala Ala Pro Ala Phe Tyr Pro Arg
E--> 633 Ala
E--> 634      85      90      95
635 Tyr Ser Asp Pro Asp Pro Ala Lys Asp Pro Arg Ala Glu Lys Lys
E--> 636 Glu
E--> 637      100      105      110
638 Leu Cys Ala Leu Gln Lys Ala Val Glu Leu Glu Lys Thr Glu Ala
E--> 639 Asp
E--> 640      115      120      125
641 Asn Ala Glu Arg Pro Arg Ala Arg Arg Arg Arg Lys Pro Arg Val

```

RAW SEQUENCE LISTING
 PATENT APPLICATION: US/09/749,728

DATE: 10/03/2001
 TIME: 15:39:28

Input Set : A:\pto_vsk.txt
 Output Set: N:\CRF3\10032001\I749728.raw

```

E--> 642 Leu
E--> 643      130      135      140
      644 Phe Ser Gln Ala Gln Val Tyr Glu Leu Glu Arg Arg Phe Lys Gln
E--> 645 Gln
E--> 646 145      150      155
E--> 647 160
      648 Arg Tyr Leu Ser Ala Pro Glu Arg Asp Gln Leu Ala Ser Val Leu
E--> 649 Lys
E--> 650      165      170      175
      651 Leu Thr Ser Thr Gln Val Lys Ile Trp Phe Gln Asn Arg Arg Tyr
E--> 652 Lys
E--> 653      180      185      190
      654 Cys Lys Arg Gln Arg Gln Asp Gln Thr Leu Glu Leu Val Gly Leu
E--> 655 Pro
E--> 656      195      200      205
      657 Pro Pro Pro Pro Pro Pro Ala Arg Arg Ile Ala Val Pro Val Leu
E--> 658 Val
E--> 659      210      215      220
      660 Arg Asp Gly Lys Pro Cys Leu Gly Asp Ser Ala Pro Tyr Ala Pro
E--> 661 Ala
E--> 662 225      230      235
E--> 663 240
      664 Tyr Gly Val Gly Leu Asn Pro Tyr Gly Tyr Asn Ala Tyr Pro Ala
E--> 665 Tyr
E--> 666      245      250      255
      667 Pro Gly Tyr Gly Gly Ala Ala Cys Ser Pro Gly Tyr Ser Cys Thr
E--> 668 Ala
E--> 669      260      265      270
      670 Ala Tyr Pro Ala Gly Pro Ser Pro Ala Gln Pro Ala Thr Ala Ala
E--> 671 Ala
E--> 672      275      280      285
      673 Asn Asn Asn Phe Val Asn Phe Gly Val Gly Asp Leu Asn Ala Val
E--> 674 Gln
E--> 675      290      295      300
      676 Ser Pro Gly Ile Pro Gln Ser Asn Ser Gly Val Ser Thr Leu His
E--> 677 Gly
E--> 678 305      310      315
E--> 679 320
      680 Ile Arg Ala Trp
      682 <210> SEQ ID NO: 10
      683 <211> LENGTH: 972
      684 <212> TYPE: DNA
      685 <213> ORGANISM: Homo sapiens
W--> 686 <220> FEATURE:
      687 <221> NAME/KEY: CDS
      688 <223> OTHER INFORMATION: (1)..(975)
W--> 689 <400> SEQUENCE: 10
E--> 690 atg ttc ccc agc cct gct ctc acg ccc acg ccc ttc tca gtc aaa
      691 gac 48
  
```

RAW SEQUENCE LISTING
 PATENT APPLICATION: US/09/749,728

DATE: 10/03/2001
 TIME: 15:39:28

Input Set : A:\pto_vsk.txt
 Output Set: N:\CRF3\10032001\I749728.raw

```

692 Met Phe Pro Ser Pro Ala Leu Thr Pro Thr Pro Phe Ser Val Lys
W--> 693 Asp
W--> 694 1 5 10 15
E--> 695 atc cta aac ctg gaa cag cag cag cgc agc ctg gct gcc gcc gga
696 gag 96
697 Ile Leu Asn Leu Glu Gln Gln Gln Arg Ser Leu Ala Ala Ala Gly
W--> 698 Glu
W--> 699 20 25 30
E--> 700 ctc tct gcc cgc ctg gag gcg acc ctg gcg ccc tcc tcc tgc atg
701 ctg 144
702 Leu Ser Ala Arg Leu Glu Ala Thr Leu Ala Pro Ser Ser Cys Met
W--> 703 Leu
W--> 704 35 40 45
E--> 705 gcc gcc ttc aag cca gag gcc tac gct ggg ccc gag gcg gct gcg
706 ccg 192
707 Ala Ala Phe Lys Pro Glu Ala Tyr Ala Gly Pro Glu Ala Ala Ala
W--> 708 Pro
W--> 709 50 55 60
E--> 710 ggc ctc cca gag ctg cgc gca gag ctg ggc cgc gcg cct tca ccg
711 gcc 240
712 Gly Leu Pro Glu Leu Arg Ala Glu Leu Gly Arg Ala Pro Ser Pro
W--> 713 Ala
W--> 714 65 70 75
E--> 715 80
E--> 716 aag tgt gcg tct gcc ttt ccc gcc gcc ccc gcc ttc tat cca cgt
717 gcc 288
718 Lys Cys Ala Ser Ala Phe Pro Ala Ala Pro Ala Phe Tyr Pro Arg
W--> 719 Ala
W--> 720 85 90 95
E--> 721 tac agc gac ccc gac cca gcc aag gac cct aga gcc gaa aag aaa
722 gag 336
723 Tyr Ser Asp Pro Asp Pro Ala Lys Asp Pro Arg Ala Glu Lys Lys
W--> 724 Glu
W--> 725 100 105 110
E--> 726 ctg tgc gcg ctg cag aag gcg gtg gag ctg gag aag aca gag gcg
727 gac 384
728 Leu Cys Ala Leu Gln Lys Ala Val Glu Leu Glu Lys Thr Glu Ala
W--> 729 Asp
W--> 730 115 120 125
E--> 731 aac gcg gag cgg ccc cgg gcg cga cgg cgg agg aag ccg cgc gtg
732 ctc 432
733 Asn Ala Glu Arg Pro Arg Ala Arg Arg Arg Arg Lys Pro Arg Val
W--> 734 Leu
W--> 735 130 135 140
E--> 736 ttc tcg cag gcg cag gtc tat gag ctg gag cgg cgc ttc aag cag
737 cag 480
738 Phe Ser Gln Ala Gln Val Tyr Glu Leu Glu Arg Arg Phe Lys Gln
W--> 739 Gln
W--> 740 145 150 155

```

RAW SEQUENCE LISTING
 PATENT APPLICATION: US/09/749,728

DATE: 10/03/2001
 TIME: 15:39:28

Input Set : A:\pto_vsk.txt
 Output Set: N:\CRF3\10032001\I749728.raw

```

E--> 741 160
E--> 742 cgg tac ctg tcg gcc ccc gaa cgc gac cag ctg gcc agc gtg ctg
      743 aaa 528
      744 Arg Tyr Leu Ser Ala Pro Glu Arg Asp Gln Leu Ala Ser Val Leu
W--> 745 Lys
W--> 746 165 170 175
E--> 747 ctc acg tcc acg cag gtc aag atc tgg ttc cag aac cgg cgc tac
      748 aag 576
      749 Leu Thr Ser Thr Gln Val Lys Ile Trp Phe Gln Asn Arg Arg Tyr
W--> 750 Lys
W--> 751 180 185 190
E--> 752 tgc aag cgg cag cgg cag gac cag act ctg gag ctg gtg ggg ctg
      753 ccc 624
      754 Cys Lys Arg Gln Arg Gln Asp Gln Thr Leu Glu Leu Val Gly Leu
W--> 755 Pro
W--> 756 195 200 205
E--> 757 ccg ccg ccg ccg ccg cct gcc cgc agg atc gcg gtg cca gtg ctg
      758 gtg 672
      759 Pro Pro Pro Pro Pro Pro Ala Arg Arg Ile Ala Val Pro Val Leu
W--> 760 Val
W--> 761 210 215 220
E--> 762 cgc gat ggc aag cca tgc cta ggg gac tcg gcg ccc tac gcg cct
      763 gcc 720
      764 Arg Asp Gly Lys Pro Cys Leu Gly Asp Ser Ala Pro Tyr Ala Pro
W--> 765 Ala
W--> 766 225 230 235
E--> 767 240
E--> 768 tac ggc gtg ggc ctc aat ccc tac ggt tat aac gcc tac ccc gcc
      769 tat 768
      770 Tyr Gly Val Gly Leu Asn Pro Tyr Gly Tyr Asn Ala Tyr Pro Ala
W--> 771 Tyr
W--> 772 245 250 255
E--> 773 ccg ggt tac ggc ggc gcg gcc tgc agc cct ggc tac agc tgc act
      774 gcc 816
      775 Pro Gly Tyr Gly Gly Ala Ala Cys Ser Pro Gly Tyr Ser Cys Thr
W--> 776 Ala
W--> 777 260 265 270
E--> 778 gct tac ccc gcc ggg cct tcc cca gcg cag ccg gcc act gcc gcc
      779 gcc 864
      780 Ala Tyr Pro Ala Gly Pro Ser Pro Ala Gln Pro Ala Thr Ala Ala
W--> 781 Ala
W--> 782 275 280 285
E--> 783 aac aac aac ttc gtg aac ttc ggc gtc ggg gac ttg aat gcg gtt
      784 cag 912
      785 Asn Asn Asn Phe Val Asn Phe Gly Val Gly Asp Leu Asn Ala Val
W--> 786 Gln
W--> 787 290 295 300
E--> 788 agc ccc ggg att ccg cag agc aac tcg gga gtg tcc acg ctg cat
      789 ggt 960
  
```

RAW SEQUENCE LISTING

DATE: 10/03/2001

PATENT APPLICATION: US/09/749,728

TIME: 15:39:28

Input Set : A:\pto_vsk.txt

Output Set: N:\CRF3\10032001\I749728.raw

```

790 Ser Pro Gly Ile Pro Gln Ser Asn Ser Gly Val Ser Thr Leu His
W--> 791 Gly
W--> 792 305          310          315
E--> 793 320
E--> 794 atc cga gcc tgg
795          972
796 Ile Arg Ala Trp
W--> 797          324
798 <210> SEQ ID NO: 11
799 <211> LENGTH: 442
800 <212> TYPE: PRT
801 <213> ORGANISM: Homo sapiens
W--> 802 <400> SEQUENCE: 11
803 Met Tyr Gln Ser Leu Ala Met Ala Ala Asn His Gly Pro Pro Pro
E--> 804 Gly
E--> 805 1          5          10          15
806 Ala Tyr Gln Ala Gly Gly Pro Gly Pro Phe Met His Gly Ala Gly
E--> 807 Ala
E--> 808          20          25          30
809 Ala Ser Ser Pro Val Tyr Leu Pro Thr Pro Arg Val Pro Ser Ser
E--> 810 Val
E--> 811          35          40          45
812 Leu Gly Leu Ser Tyr Leu Gln Gly Gly Gly Ala Gly Ser Ala Ser
E--> 813 Gly
E--> 814          50          55          60
815 Gly Pro Ser Gly Gly Ser Pro Gly Gly Ala Ala Ser Gly Ala Gly
E--> 816 Pro
E--> 817 65          70          75
E--> 818 80
819 Gly Thr Gln Gln Gly Ser Pro Gly Trp Ser Gln Ala Gly Ala Thr
E--> 820 Gly
E--> 821          85          90          95
822 Ala Ala Tyr Thr Pro Pro Pro Val Ser Pro Arg Phe Ser Phe Pro
E--> 823 Gly
E--> 824          100          105          110
825 Thr Thr Gly Ser Leu Ala Ala Ala Ala Ala Ala Ala Ala Arg
E--> 826 Glu
E--> 827          115          120          125
828 Ala Ala Ala Tyr Ser Ser Gly Gly Gly Ala Ala Gly Ala Gly Leu
E--> 829 Ala
E--> 830          130          135          140
831 Gly Arg Glu Gln Tyr Gly Arg Ala Gly Phe Ala Gly Ser Tyr Ser
E--> 832 Ser
E--> 833 145          150          155
E--> 834 160
835 Pro Tyr Pro Ala Tyr Met Ala Asp Val Gly Ala Ser Trp Ala Ala
E--> 836 Ala
E--> 837          165          170          175
838 Ala Ala Ala Ser Ala Gly Pro Phe Asp Ser Pro Val Leu His Ser

```

RAW SEQUENCE LISTING

DATE: 10/03/2001

PATENT APPLICATION: US/09/749,728

TIME: 15:39:28

Input Set : A:\pto_vsk.txt

Output Set: N:\CRF3\10032001\I749728.raw

```

E--> 839 Leu
E--> 840          180          185          190
      841 Pro Gly Arg Ala Asn Pro Ala Ala Arg His Pro Asn Leu Asp Met
E--> 842 Phe
E--> 843          195          200          205
      844 Asp Asp Phe Ser Glu Gly Arg Glu Cys Val Asn Cys Gly Ala Met
E--> 845 Ser
E--> 846          210          215          220
      847 Thr Pro Leu Trp Arg Arg Asp Gly Thr Gly His Tyr Leu Cys Asn
E--> 848 Ala
E--> 849 225          230          235
E--> 850 240
      851 Cys Gly Leu Tyr His Lys Met Asn Gly Ile Asn Arg Pro Leu Ile
E--> 852 Lys
E--> 853          245          250          255
      854 Pro Gln Arg Arg Leu Ser Ala Ser Arg Arg Val Gly Leu Ser Cys
E--> 855 Ala
E--> 856          260          265          270
      857 Asn Cys Gln Thr Thr Thr Thr Thr Leu Trp Arg Arg Asn Ala Glu
E--> 858 Gly
E--> 859          275          280          285
      860 Glu Pro Val Cys Asn Ala Cys Gly Leu Tyr Met Lys Leu His Gly
E--> 861 Val
E--> 862          290          295          300
      863 Pro Arg Pro Leu Ala Met Arg Lys Glu Gly Ile Gln Thr Arg Lys
E--> 864 Arg
E--> 865 305          310          315
E--> 866 320
      867 Lys Pro Lys Asn Leu Asn Lys Ser Lys Thr Pro Ala Ala Pro Ser
E--> 868 Gly
E--> 869          325          330          335
      870 Ser Glu Ser Leu Pro Pro Ala Ser Gly Ala Ser Ser Asn Ser Ser
E--> 871 Asn
E--> 872          340          345          350
      873 Ala Thr Thr Ser Ser Ser Glu Glu Met Arg Pro Ile Lys Thr Glu
E--> 874 Pro
E--> 875          355          360          365
      876 Gly Leu Ser Ser His Tyr Gly His Ser Ser Ser Val Ser Gln Thr
E--> 877 Phe
E--> 878          370          375          380
      879 Ser Val Ser Ala Met Ser Gly His Gly Pro Ser Ile His Pro Val
E--> 880 Leu
E--> 881 385          390          395
E--> 882 400
      883 Ser Ala Leu Lys Leu Ser Pro Gln Gly Tyr Ala Ser Pro Val Ser
E--> 884 Gln
E--> 885          405          410          415
      886 Ser Pro Gln Thr Ser Ser Lys Gln Asp Ser Trp Asn Ser Leu Val
E--> 887 Leu

```

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/749,728

DATE: 10/03/2001
TIME: 15:39:28

Input Set : A:\pto_vsk.txt
Output Set: N:\CRF3\10032001\I749728.raw

```

E--> 888          420          425          430
      889 Ala Asp Ser His Gly Asp Ile Ile Thr Ala
E--> 890          435          440
      891 <210> SEQ ID NO: 12
      892 <211> LENGTH: 1326
      893 <212> TYPE: DNA
      894 <213> ORGANISM: Homo sapiens
W--> 895 <220> FEATURE:
      896 <221> NAME/KEY: CDS
      897 <223> OTHER INFORMATION: (1)..(1329)
W--> 898 <400> SEQUENCE: 12
E--> 899 atg tat cag agc ttg gcc atg gcc gcc aac cac ggg ccg ccc ccc
      900 ggt 48
      901 Met Tyr Gln Ser Leu Ala Met Ala Ala Asn His Gly Pro Pro Pro
W--> 902 Gly
W--> 903 1          5          10          15
E--> 904 gcc tac cag gcg ggc ggc ccc ggc ccc ttc atg cac ggc gcg ggc
      905 gcc 96
      906 Ala Tyr Gln Ala Gly Gly Pro Gly Pro Phe Met His Gly Ala Gly
W--> 907 Ala
W--> 908          20          25          30
E--> 909 gcg tcc tcg cca gtc tac ctg ccc aca ccg cgg gtg ccc tcc tcc
      910 gtt 144
      911 Ala Ser Ser Pro Val Tyr Leu Pro Thr Pro Arg Val Pro Ser Ser
W--> 912 Val
W--> 913          35          40          45
E--> 914 ctg ggc ctg tcc tac ctc cag ggc gga ggc gcg ggc tct gcg tcc
      915 gga 192
      916 Leu Gly Leu Ser Tyr Leu Gln Gly Gly Gly Ala Gly Ser Ala Ser
W--> 917 Gly
W--> 918          50          55          60
E--> 919 ggc ccc tcg ggc ggc agc ccc ggt ggg gcc gcg tct ggt gcg ggg
      920 ccc 240
      921 Gly Pro Ser Gly Gly Ser Pro Gly Gly Ala Ala Ser Gly Ala Gly
W--> 922 Pro
W--> 923 65          70          75
E--> 924 80
E--> 925 ggg acc cag cag ggc agc ccg gga tgg agc cag gcg gga gcg acc
      926 gga 288
      927 Gly Thr Gln Gln Gly Ser Pro Gly Trp Ser Gln Ala Gly Ala Thr
W--> 928 Gly
W--> 929          85          90          95
E--> 930 gcc gct tac acc ccg ccg ccg gtg tcg ccg cgc ttc tcc ttc ccg
      931 ggg 336
      932 Ala Ala Tyr Thr Pro Pro Pro Val Ser Pro Arg Phe Ser Phe Pro
W--> 933 Gly
W--> 934          100         105         110
E--> 935 acc acc ggg tcc ctg gcg gcg gcg gcg gct gcc gcc gcc ccg
      936 gaa 384

```

*amino numbering
must be aligned
beneath protein strings*

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/749,728

DATE: 10/03/2001
TIME: 15:39:28

Input Set : A:\pto_vsk.txt
Output Set: N:\CRF3\10032001\I749728.raw

```

937 Thr Thr Gly Ser Leu Ala Ala Ala Ala Ala Ala Ala Arg
W--> 938 Glu
W--> 939      115      120      125
E--> 940 gct gcg gcc tac agc agt ggc ggc gga gcg gcg ggt gcg ggc ctg
941 gcg 432
942 Ala Ala Ala Tyr Ser Ser Gly Gly Gly Ala Ala Gly Ala Gly Leu
W--> 943 Ala
W--> 944      130      135      140
E--> 945 ggc cgc gag cag tac ggg cgc gcc ggc ttc gcg ggc tcc tac tcc
946 agc 480
947 Gly Arg Glu Gln Tyr Gly Arg Ala Gly Phe Ala Gly Ser Tyr Ser
W--> 948 Ser
W--> 949 145      150      155
E--> 950 160
E--> 951 ccc tac ccg gct tac atg gcc gac gtg ggc gcg tcc tgg gcc gca
952 gcc 528
953 Pro Tyr Pro Ala Tyr Met Ala Asp Val Gly Ala Ser Trp Ala Ala
W--> 954 Ala
W--> 955      165      170      175
E--> 956 gcc gcc gcc tcc gcc ggc ccc ttc gac agc ccg gtc ctg cac agc
957 ctg 576
958 Ala Ala Ala Ser Ala Gly Pro Phe Asp Ser Pro Val Leu His Ser
W--> 959 Leu
W--> 960      180      185      190
E--> 961 ccc ggc cgg gcc aac ccg gcc gcc cga cac ccc aat ctc gat atg
962 ttt 624
963 Pro Gly Arg Ala Asn Pro Ala Ala Arg His Pro Asn Leu Asp Met
W--> 964 Phe
W--> 965      195      200      205
E--> 966 gac gac ttc tca gaa ggc aga gag tgt gtc aac tgt ggg gct atg
967 tcc 672
968 Asp Asp Phe Ser Glu Gly Arg Glu Cys Val Asn Cys Gly Ala Met
W--> 969 Ser
W--> 970      210      215      220
E--> 971 acc ccg ctc tgg agg cga gat ggg acg ggt cac tat ctg tgc aac
972 gcc 720
973 Thr Pro Leu Trp Arg Arg Asp Gly Thr Gly His Tyr Leu Cys Asn
W--> 974 Ala
W--> 975 225      230      235
E--> 976 240
E--> 977 tgt ggc ctc tac cac aag atg aac ggc atc aac cgg ccg ctc atc
978 aag 768
979 Cys Gly Leu Tyr His Lys Met Asn Gly Ile Asn Arg Pro Leu Ile
W--> 980 Lys
W--> 981      245      250      255
E--> 982 cct cag cgc cgg ctg tcc gcc tcc cgc cga gtg ggc ctc tcc tgt
983 gcc 816
984 Pro Gln Arg Arg Leu Ser Ala Ser Arg Arg Val Gly Leu Ser Cys
W--> 985 Ala

```

RAW SEQUENCE LISTING
 PATENT APPLICATION: US/09/749,728

DATE: 10/03/2001
 TIME: 15:39:28

Input Set : A:\pto_vsk.txt
 Output Set: N:\CRF3\10032001\I749728.raw

```

W--> 986                260                265                270
E--> 987 aac tgc cag acc acc acc acc acc acg ctg tgg cgc cgc aat gcg gag
      988 ggc      864
      989 Asn Cys Gln Thr Thr Thr Thr Thr Leu Trp Arg Arg Asn Ala Glu
W--> 990 Gly
W--> 991                275                280                285
E--> 992 gag cct gtg tgc aat gcc tgc ggc ctc tac atg aag ctc cac ggg
      993 gtg      912
      994 Glu Pro Val Cys Asn Ala Cys Gly Leu Tyr Met Lys Leu His Gly
W--> 995 Val
W--> 996      290                295                300
E--> 997 ccc agg cct ctt gca atg cgg aaa gag ggg atc caa acc aga aaa
      998 cgg      960
      999 Pro Arg Pro Leu Ala Met Arg Lys Glu Gly Ile Gln Thr Arg Lys
W--> 1000 Arg
W--> 1001 305                310                315
E--> 1002 320
E--> 1003 aag ccc aag aac ctg aat aaa tct aag aca cca gca gct cct tca
      1004 ggc      1008
      1005 Lys Pro Lys Asn Leu Asn Lys Ser Lys Thr Pro Ala Ala Pro Ser
W--> 1006 Gly
W--> 1007                325                330                335
E--> 1008 agt gag agc ctt cct ccc gcc agc ggt gct tcc agc aac tcc agc
      1009 aac      1056
      1010 Ser Glu Ser Leu Pro Pro Ala Ser Gly Ala Ser Ser Asn Ser Ser
W--> 1011 Asn
W--> 1012                340                345                350
E--> 1013 gcc acc acc agc agc agc gag gag atg cgt ccc atc aag acg gag
      1014 cct      1104
      1015 Ala Thr Thr Ser Ser Ser Glu Glu Met Arg Pro Ile Lys Thr Glu
W--> 1016 Pro
W--> 1017                355                360                365
E--> 1018 ggc ctg tca tct cac tac ggg cac agc agc tcc gtg tcc cag acg
      1019 ttc      1152
      1020 Gly Leu Ser Ser His Tyr Gly His Ser Ser Ser Val Ser Gln Thr
W--> 1021 Phe
W--> 1022      370                375                380
E--> 1023 tca gtc agt gcg atg tct ggc cat ggg ccc tcc atc cac cct gtc
      1024 ctc      1200
      1025 Ser Val Ser Ala Met Ser Gly His Gly Pro Ser Ile His Pro Val
W--> 1026 Leu
W--> 1027 385                390                395
E--> 1028 400
E--> 1029 tcg gcc ctg aag ctc tcc cca caa ggc tat gcg tct ccc gtc agc
      1030 cag      1248
      1031 Ser Ala Leu Lys Leu Ser Pro Gln Gly Tyr Ala Ser Pro Val Ser
W--> 1032 Gln
W--> 1033                405                410                415
E--> 1034 tct cca cag acc agc tcc aag cag gac tct tgg aac agt ctg gtc

```

RAW SEQUENCE LISTING
 PATENT APPLICATION: US/09/749,728

DATE: 10/03/2001
 TIME: 15:39:28

Input Set : A:\pto_vsk.txt
 Output Set: N:\CRF3\10032001\I749728.raw

```

1035 ttg 1296
1036 Ser Pro Gln Thr Ser Ser Lys Gln Asp Ser Trp Asn Ser Leu Val
W--> 1037 Leu
W--> 1038 420 425 430
E--> 1039 gcc gac agt cac ggg gac ata atc act gcg
1040 1326
1041 Ala Asp Ser His Gly Asp Ile Ile Thr Ala
W--> 1042 435 440
1043 <210> SEQ ID NO: 13
1044 <211> LENGTH: 507
1045 <212> TYPE: PRT
1046 <213> ORGANISM: Homo sapiens
W--> 1047 <400> SEQUENCE: 13
1048 Met Gly Arg Lys Lys Ile Gln Ile Thr Arg Ile Met Asp Glu Arg
E--> 1049 Asn
E--> 1050 1 5 10 15
1051 Arg Gln Val Thr Phe Thr Lys Arg Lys Phe Gly Leu Met Lys Lys
E--> 1052 Ala
E--> 1053 20 25 30
1054 Tyr Glu Leu Ser Val Leu Cys Asp Cys Glu Ile Ala Leu Ile Ile
E--> 1055 Phe
E--> 1056 35 40 45
1057 Asn Ser Ser Asn Lys Leu Phe Gln Tyr Ala Ser Thr Asp Met Asp
E--> 1058 Lys
E--> 1059 50 55 60
1060 Val Leu Leu Lys Tyr Thr Glu Tyr Asn Glu Pro His Glu Ser Arg
E--> 1061 Thr
E--> 1062 65 70 75
E--> 1063 80
1064 Asn Ser Asp Ile Val Glu Ala Leu Asn Lys Lys Glu His Arg Gly
E--> 1065 Cys
E--> 1066 85 90 95
1067 Asp Ser Pro Asp Pro Asp Thr Ser Tyr Val Leu Thr Pro His Thr
E--> 1068 Glu
E--> 1069 100 105 110
1070 Glu Lys Tyr Lys Lys Ile Asn Glu Glu Phe Asp Asn Met Met Arg
E--> 1071 Asn
E--> 1072 115 120 125
1073 His Lys Ile Ala Pro Gly Leu Pro Pro Gln Asn Phe Ser Met Ser
E--> 1074 Val
E--> 1075 130 135 140
1076 Thr Val Pro Val Thr Ser Pro Asn Ala Leu Ser Tyr Thr Asn Pro
E--> 1077 Gly
E--> 1078 145 150 155
E--> 1079 160
1080 Ser Ser Leu Val Ser Pro Ser Leu Ala Ala Ser Ser Thr Leu Thr
E--> 1081 Asp
E--> 1082 165 170 175
1083 Ser Ser Met Leu Ser Pro Pro Gln Thr Thr Leu His Arg Asn Val

```

RAW SEQUENCE LISTING

DATE: 10/03/2001

PATENT APPLICATION: US/09/749,728

TIME: 15:39:28

Input Set : A:\pto_vsk.txt

Output Set: N:\CRF3\10032001\I749728.raw

```

E--> 1084 Ser
E--> 1085          180          185          190
      1086 Pro Gly Ala Pro Gln Arg Pro Pro Ser Thr Gly Asn Ala Gly Gly
E--> 1087 Met
E--> 1088          195          200          205
      1089 Leu Ser Thr Thr Asp Leu Thr Val Pro Asn Gly Ala Gly Ser Ser
E--> 1090 Pro
E--> 1091          210          215          220
      1092 Val Gly Asn Gly Phe Val Asn Ser Arg Ala Ser Pro Asn Leu Ile
E--> 1093 Gly
E--> 1094 225          230          235
E--> 1095 240
      1096 Ala Thr Gly Ala Asn Ser Leu Gly Lys Val Met Pro Thr Lys Ser
E--> 1097 Pro
E--> 1098          245          250          255
      1099 Pro Pro Pro Gly Gly Gly Asn Leu Gly Met Asn Ser Arg Lys Pro
E--> 1100 Asp
E--> 1101          260          265          270
      1102 Leu Arg Val Val Ile Pro Pro Ser Ser Lys Gly Met Met Pro Pro
E--> 1103 Leu
E--> 1104          275          280          285
      1105 Ser Glu Glu Glu Glu Leu Glu Leu Asn Thr Gln Arg Ile Ser Ser
E--> 1106 Ser
E--> 1107          290          295          300
      1108 Gln Ala Thr Gln Pro Leu Ala Thr Pro Val Val Ser Val Thr Thr
E--> 1109 Pro
E--> 1110 305          310          315
E--> 1111 320
      1112 Ser Leu Pro Pro Gln Gly Leu Val Tyr Ser Ala Met Pro Thr Ala
E--> 1113 Tyr
E--> 1114          325          330          335
      1115 Asn Thr Asp Tyr Ser Leu Thr Ser Ala Asp Leu Ser Ala Leu Gln
E--> 1116 Gly
E--> 1117          340          345          350
      1118 Phe Asn Ser Pro Gly Met Leu Ser Leu Gly Gln Val Ser Ala Trp
E--> 1119 Gln
E--> 1120          355          360          365
      1121 Gln His His Leu Gly Gln Ala Ala Leu Ser Ser Leu Val Ala Gly
E--> 1122 Gly
E--> 1123          370          375          380
      1124 Gln Leu Ser Gln Gly Ser Asn Leu Ser Ile Asn Thr Asn Gln Asn
E--> 1125 Ile
E--> 1126 385          390          395
E--> 1127 400
      1128 Ser Ile Lys Ser Glu Pro Ile Ser Pro Pro Arg Asp Arg Met Thr
E--> 1129 Pro
E--> 1130          405          410          415
      1131 Ser Gly Phe Gln Gln Gln Gln Gln Gln Gln Gln Gln Gln Pro
E--> 1132 Pro

```

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/749,728

DATE: 10/03/2001
TIME: 15:39:28

Input Set : A:\pto_vsk.txt
Output Set: N:\CRF3\10032001\I749728.raw

```

E--> 1133          420          425          430
      1134 Pro Pro Pro Gln Pro Gln Pro Gln Pro Pro Gln Pro Gln Pro Arg
E--> 1135 Gln
E--> 1136          435          440          445
      1137 Glu Met Gly Arg Ser Pro Val Asp Ser Leu Ser Ser Ser Ser Ser
E--> 1138 Ser
E--> 1139          450          455          460
      1140 Tyr Asp Gly Ser Asp Arg Glu Asp Pro Arg Gly Asp Phe His Ser
E--> 1141 Pro
E--> 1142 465          470          475
E--> 1143 480
      1144 Ile Val Leu Gly Arg Pro Pro Asn Thr Glu Asp Arg Glu Ser Pro
E--> 1145 Ser
E--> 1146          485          490          495
      1147 Val Lys Arg Met Arg Met Asp Ala Trp Val Thr
E--> 1148          500          505
      1149 <210> SEQ ID NO: 14
      1150 <211> LENGTH: 1521
      1151 <212> TYPE: DNA
      1152 <213> ORGANISM: Homo sapiens
W--> 1153 <220> FEATURE:
      1154 <221> NAME/KEY: CDS
      1155 <223> OTHER INFORMATION: (1)..(1524)
W--> 1156 <400> SEQUENCE: 14
E--> 1157 atg ggg cgg aag aaa ata caa atc aca cgc ata atg gat gaa agg
      1158 aac 48
      1159 Met Gly Arg Lys Lys Ile Gln Ile Thr Arg Ile Met Asp Glu Arg
W--> 1160 Asn
W--> 1161 1          5          10          15
E--> 1162 cga cag gtc act ttt aca aag aga aag ttt gga tta atg aag aaa
      1163 gcc 96
      1164 Arg Gln Val Thr Phe Thr Lys Arg Lys Phe Gly Leu Met Lys Lys
W--> 1165 Ala
W--> 1166          20          25          30
E--> 1167 tat gaa ctt agt gtg ctc tgt gac tgt gaa ata gca ctc atc att
      1168 ttc 144
      1169 Tyr Glu Leu Ser Val Leu Cys Asp Cys Glu Ile Ala Leu Ile Ile
W--> 1170 Phe
W--> 1171          35          40          45
E--> 1172 aac agc tct aac aaa ctg ttt caa tat gct agc act gat atg gac
      1173 aaa 192
      1174 Asn Ser Ser Asn Lys Leu Phe Gln Tyr Ala Ser Thr Asp Met Asp
W--> 1175 Lys
W--> 1176          50          55          60
E--> 1177 gtt ctt ctc aag tat aca gaa tat aat gaa cct cat gaa agc aga
      1178 acc 240
      1179 Val Leu Leu Lys Tyr Thr Glu Tyr Asn Glu Pro His Glu Ser Arg
W--> 1180 Thr
W--> 1181 65          70          75

```

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/749,728

DATE: 10/03/2001

TIME: 15:39:28

Input Set : A:\pto_vsk.txt

Output Set: N:\CRF3\10032001\I749728.raw

```

E--> 1182   80
E--> 1183 aac tcg gat att gtt gag gct ctg aac aag aag gaa cac aga ggg
      1184 tgc   288
      1185 Asn Ser Asp Ile Val Glu Ala Leu Asn Lys Lys Glu His Arg Gly
W--> 1186 Cys
W--> 1187                               85                               90                               95
E--> 1188 gac agc cca gac cct gat act tca tat gtg cta act cca cat aca
      1189 gaa   336
      1190 Asp Ser Pro Asp Pro Asp Thr Ser Tyr Val Leu Thr Pro His Thr
W--> 1191 Glu
W--> 1192                               100                               105                               110
E--> 1193 gaa aaa tat aaa aaa att aat gag gaa ttt gat aat atg atg cgg
      1194 aat   384
      1195 Glu Lys Tyr Lys Lys Ile Asn Glu Glu Phe Asp Asn Met Met Arg
W--> 1196 Asn
W--> 1197                               115                               120                               125
E--> 1198 cat aaa atc gca cct ggt ctg cca cct cag aac ttt tca atg tct
      1199 gtc   432
      1200 His Lys Ile Ala Pro Gly Leu Pro Pro Gln Asn Phe Ser Met Ser
W--> 1201 Val
W--> 1202                               130                               135                               140
E--> 1203 aca gtt cca gtg acc agc ccc aat gct ttg tcc tac act aac cca
      1204 ggg   480
      1205 Thr Val Pro Val Thr Ser Pro Asn Ala Leu Ser Tyr Thr Asn Pro
W--> 1206 Gly
W--> 1207 145                               150                               155
E--> 1208 160
E--> 1209 agt tca ctg gtg tcc cca tct ttg gca gcc agc tca acg tta aca
      1210 gat   528
      1211 Ser Ser Leu Val Ser Pro Ser Leu Ala Ala Ser Ser Thr Leu Thr
W--> 1212 Asp
W--> 1213                               165                               170                               175
E--> 1214 tca agc atg ctc tct cca cct caa acc aca tta cat aga aat gtg
      1215 tct   576
      1216 Ser Ser Met Leu Ser Pro Pro Gln Thr Thr Leu His Arg Asn Val
W--> 1217 Ser
W--> 1218                               180                               185                               190
E--> 1219 cct gga gct cct cag aga cca cca agt act ggc aat gca ggt ggg
      1220 atg   624
      1221 Pro Gly Ala Pro Gln Arg Pro Pro Ser Thr Gly Asn Ala Gly Gly
W--> 1222 Met
W--> 1223                               195                               200                               205
E--> 1224 ttg agc act aca gac ctc aca gtg cca aat gga gct gga agc agt
      1225 cca   672
      1226 Leu Ser Thr Thr Asp Leu Thr Val Pro Asn Gly Ala Gly Ser Ser
W--> 1227 Pro
W--> 1228                               210                               215                               220
E--> 1229 gtg ggg aat gga ttt gta aac tca aga gct tct cca aat ttg att
      1230 gga   720

```

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/749,728

DATE: 10/03/2001

TIME: 15:39:28

Input Set : A:\pto_vsk.txt

Output Set: N:\CRF3\10032001\I749728.raw

```

1231 Val Gly Asn Gly Phe Val Asn Ser Arg Ala Ser Pro Asn Leu Ile
W--> 1232 Gly
W--> 1233 225                230                235
E--> 1234 240
E--> 1235 gct act ggt gca aat agc tta ggc aaa gtc atg cct aca aag tct
1236 ccc 768
1237 Ala Thr Gly Ala Asn Ser Leu Gly Lys Val Met Pro Thr Lys Ser
W--> 1238 Pro
W--> 1239                245                250                255
E--> 1240 cct cca cca ggt ggt ggt aat ctt gga atg aac agt agg aaa cca
1241 gat 816
1242 Pro Pro Pro Gly Gly Gly Asn Leu Gly Met Asn Ser Arg Lys Pro
W--> 1243 Asp
W--> 1244                260                265                270
E--> 1245 ctt cga gtt gtc atc ccc cct tca agc aag ggc atg atg cct cca
1246 cta 864
1247 Leu Arg Val Val Ile Pro Pro Ser Ser Lys Gly Met Met Pro Pro
W--> 1248 Leu
W--> 1249                275                280                285
E--> 1250 tcg gag gaa gag gaa ttg gag ttg aac acc caa agg atc agt agt
1251 tct 912
1252 Ser Glu Glu Glu Glu Leu Glu Leu Asn Thr Gln Arg Ile Ser Ser
W--> 1253 Ser
W--> 1254                290                295                300
E--> 1255 caa gcc act caa cct ctt gct acc cca gtc gtg tct gtg aca acc
1256 cca 960
1257 Gln Ala Thr Gln Pro Leu Ala Thr Pro Val Val Ser Val Thr Thr
W--> 1258 Pro
W--> 1259 305                310                315
E--> 1260 320
E--> 1261 agc ttg cct ccg caa gga ctt gtg tac tca gca atg ccg act gcc
1262 tac 1008
1263 Ser Leu Pro Pro Gln Gly Leu Val Tyr Ser Ala Met Pro Thr Ala
W--> 1264 Tyr
W--> 1265                325                330                335
E--> 1266 aac act gat tat tca ctg acc agc gct gac ctg tca gcc ctt caa
1267 ggc 1056
1268 Asn Thr Asp Tyr Ser Leu Thr Ser Ala Asp Leu Ser Ala Leu Gln
W--> 1269 Gly
W--> 1270                340                345                350
E--> 1271 ttc aac tcg cca gga atg ctg tcg ctg gga cag gtg tcg gcc tgg
1272 cag 1104
1273 Phe Asn Ser Pro Gly Met Leu Ser Leu Gly Gln Val Ser Ala Trp
W--> 1274 Gln
W--> 1275                355                360                365
E--> 1276 cag cac cac cta gga caa gca gcc ctc agc tct ctt gtt gct gga
1277 ggg 1152
1278 Gln His His Leu Gly Gln Ala Ala Leu Ser Ser Leu Val Ala Gly
W--> 1279 Gly

```

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/749,728

DATE: 10/03/2001

TIME: 15:39:28

Input Set : A:\pto_vsk.txt

Output Set: N:\CRF3\10032001\I749728.raw

```

W--> 1280      370                      375                      380
E--> 1281 cag tta tct cag ggt tcc aat tta tcc att aat acc aac caa aac
      1282 atc 1200
      1283 Gln Leu Ser Gln Gly Ser Asn Leu Ser Ile Asn Thr Asn Gln Asn
W--> 1284 Ile
W--> 1285 385                      390                      395
E--> 1286 400
E--> 1287 agc atc aag tcc gaa ccg att tca cct cct cgg gat cgt atg acc
      1288 cca 1248
      1289 Ser Ile Lys Ser Glu Pro Ile Ser Pro Pro Arg Asp Arg Met Thr
W--> 1290 Pro
W--> 1291                      405                      410                      415
E--> 1292 tcg ggc ttc cag cag cag cag cag cag cag cag cag cag cag ccg
      1293 ccg 1296
      1294 Ser Gly Phe Gln Gln Gln Gln Gln Gln Gln Gln Gln Gln Pro
W--> 1295 Pro
W--> 1296                      420                      425                      430
E--> 1297 cca cca ccg cag ccc cag cca caa ccc ccg cag ccc cag ccc cga
      1298 cag 1344
      1299 Pro Pro Pro Gln Pro Gln Pro Gln Pro Pro Gln Pro Gln Pro Arg
W--> 1300 Gln
W--> 1301                      435                      440                      445
E--> 1302 gaa atg ggg cgc tcc cct gtg gac agt ctg agc agc tct agt agc
      1303 tcc 1392
      1304 Glu Met Gly Arg Ser Pro Val Asp Ser Leu Ser Ser Ser Ser Ser
W--> 1305 Ser
W--> 1306 450                      455                      460
E--> 1307 tat gat ggc agt gat cgg gag gat cca cgg ggc gac ttc cat tct
      1308 cca 1440
      1309 Tyr Asp Gly Ser Asp Arg Glu Asp Pro Arg Gly Asp Phe His Ser
W--> 1310 Pro
W--> 1311 465                      470                      475
E--> 1312 480
E--> 1313 att gtg ctt ggc cga ccc cca aac act gag gac aga gaa agc cct
      1314 tct 1488
      1315 Ile Val Leu Gly Arg Pro Pro Asn Thr Glu Asp Arg Glu Ser Pro
W--> 1316 Ser
W--> 1317                      485                      490                      495
E--> 1318 gta aag cga atg agg atg gac gcg tgg gtg acc
      1319 1521
      1320 Val Lys Arg Met Arg Met Asp Ala Trp Val Thr
W--> 1321                      500                      505
      1322 <210> SEQ ID NO: 15
      1323 <211> LENGTH: 365
      1324 <212> TYPE: PRT
      1325 <213> ORGANISM: Homo sapiens
W--> 1326 <400> SEQUENCE: 15
      1327 Met Gly Arg Lys Lys Ile Gln Ile Ser Arg Ile Leu Asp Gln Arg
E--> 1328 Asn

```

RAW SEQUENCE LISTING

DATE: 10/03/2001

PATENT APPLICATION: US/09/749,728

TIME: 15:39:28

Input Set : A:\pto_vsk.txt

Output Set: N:\CRF3\10032001\I749728.raw

```

E--> 1329      1              5              10              15
      1330 Arg Gln Val Thr Phe Thr Lys Arg Lys Phe Gly Leu Met Lys Lys
E--> 1331 Ala
E--> 1332              20              25              30
      1333 Tyr Glu Leu Ser Val Leu Cys Asp Cys Glu Ile Ala Leu Ile Ile
E--> 1334 Phe
E--> 1335              35              40              45
      1336 Asn Ser Ala Asn Arg Leu Phe Gln Tyr Ala Ser Thr Asp Met Asp
E--> 1337 Arg
E--> 1338              50              55              60
      1339 Val Leu Leu Lys Tyr Thr Glu Tyr Ser Glu Pro His Glu Ser Arg
E--> 1340 Thr
E--> 1341      65              70              75
E--> 1342      80
      1343 Asn Thr Asp Ile Leu Glu Thr Leu Lys Arg Arg Gly Ile Gly Leu
E--> 1344 Asp
E--> 1345              85              90              95
      1346 Gly Pro Glu Leu Glu Pro Asp Glu Gly Pro Glu Glu Pro Gly Glu
E--> 1347 Lys
E--> 1348              100             105             110
      1349 Phe Arg Arg Leu Ala Gly Glu Gly Gly Asp Pro Ala Leu Pro Arg
E--> 1350 Pro
E--> 1351              115             120             125
      1352 Arg Leu Tyr Pro Ala Ala Pro Ala Met Pro Ser Pro Asp Val Val
E--> 1353 Tyr
E--> 1354              130             135             140
      1355 Gly Ala Leu Pro Pro Pro Gly Cys Asp Pro Ser Gly Leu Gly Glu
E--> 1356 Ala
E--> 1357      145             150             155
E--> 1358      160
      1359 Leu Pro Ala Gln Ser Arg Pro Ser Pro Phe Arg Pro Ala Ala Pro
E--> 1360 Lys
E--> 1361              165             170             175
      1362 Ala Gly Pro Pro Gly Leu Val His Pro Leu Phe Ser Pro Ser His
E--> 1363 Leu
E--> 1364              180             185             190
      1365 Thr Ser Lys Thr Pro Pro Pro Leu Tyr Leu Pro Thr Glu Gly Arg
E--> 1366 Arg
E--> 1367              195             200             205
      1368 Ser Asp Leu Pro Gly Gly Leu Ala Gly Pro Arg Gly Gly Leu Asn
E--> 1369 Thr
E--> 1370              210             215             220
      1371 Ser Arg Ser Leu Tyr Ser Gly Leu Gln Asn Pro Cys Ser Thr Ala
E--> 1372 Thr
E--> 1373      225             230             235
E--> 1374      240
      1375 Pro Gly Pro Pro Leu Gly Ser Phe Pro Phe Leu Pro Gly Gly Pro
E--> 1376 Pro
E--> 1377              245             250             255

```

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/749,728

DATE: 10/03/2001

TIME: 15:39:28

Input Set : A:\pto_vsk.txt

Output Set: N:\CRF3\10032001\I749728.raw

```

1378 Val Gly Ala Glu Ala Trp Ala Arg Arg Val Pro Gln Pro Ala Ala
E--> 1379 Pro
E--> 1380          260          265          270
1381 Pro Arg Arg Pro Pro Gln Ser Ala Ser Ser Leu Ser Ala Ser Leu
E--> 1382 Arg
E--> 1383          275          280          285
1384 Pro Pro Gly Ala Pro Ala Thr Phe Leu Arg Pro Ser Pro Ile Pro
E--> 1385 Cys
E--> 1386          290          295          300
1387 Ser Ser Pro Gly Pro Trp Gln Ser Leu Cys Gly Leu Gly Pro Pro
E--> 1388 Cys
E--> 1389 305          310          315
E--> 1390 320
1391 Ala Gly Cys Pro Trp Pro Thr Ala Gly Pro Gly Arg Arg Ser Pro
E--> 1392 Gly
E--> 1393          325          330          335
1394 Gly Thr Ser Pro Glu Arg Ser Pro Gly Thr Ala Arg Ala Arg Gly
E--> 1395 Asp
E--> 1396          340          345          350
1397 Pro Thr Ser Leu Gln Ala Ser Ser Glu Lys Thr Gln Gln
E--> 1398          355          360
1399 <210> SEQ ID NO: 16
1400 <211> LENGTH: 1095
1401 <212> TYPE: DNA
1402 <213> ORGANISM: Homo sapiens
W--> 1403 <220> FEATURE:
1404 <221> NAME/KEY: CDS
1405 <223> OTHER INFORMATION: (1)..(1098)
W--> 1406 <400> SEQUENCE: 16
E--> 1407 atg ggg agg aaa aaa atc cag atc tcc cgc atc ctg gac caa agg
1408 aat 48
1409 Met Gly Arg Lys Lys Ile Gln Ile Ser Arg Ile Leu Asp Gln Arg
W--> 1410 Asn
W--> 1411 1          5          10          15
E--> 1412 cgg cag gtg acg ttc acc aag cgg aag ttc ggg ctg atg aag aag
1413 gcc 96
1414 Arg Gln Val Thr Phe Thr Lys Arg Lys Phe Gly Leu Met Lys Lys
W--> 1415 Ala
W--> 1416          20          25          30
E--> 1417 tat gag ctg agc gtg ctc tgt gac tgt gag ata gcc ctc atc atc
1418 ttc 144
1419 Tyr Glu Leu Ser Val Leu Cys Asp Cys Glu Ile Ala Leu Ile Ile
W--> 1420 Phe
W--> 1421          35          40          45
E--> 1422 aac agc gcc aac cgc ctc ttc cag tat gcc agc acg gac atg gac
1423 cgt 192
1424 Asn Ser Ala Asn Arg Leu Phe Gln Tyr Ala Ser Thr Asp Met Asp
W--> 1425 Arg
W--> 1426          50          55          60

```

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/749,728

DATE: 10/03/2001

TIME: 15:39:28

Input Set : A:\pto_vsk.txt

Output Set: N:\CRF3\10032001\I749728.raw

```

E--> 1427 gtg ctg ctg aag tac aca gag tac agc gag ccc cac gag agc cgc
      1428 acc 240
      1429 Val Leu Leu Lys Tyr Thr Glu Tyr Ser Glu Pro His Glu Ser Arg
W--> 1430 Thr
W--> 1431 65 70 75
E--> 1432 80
E--> 1433 aac act gac atc ctc gag acg ctg aag cgg agg ggc att ggc ctc
      1434 gat 288
      1435 Asn Thr Asp Ile Leu Glu Thr Leu Lys Arg Arg Gly Ile Gly Leu
W--> 1436 Asp
W--> 1437 85 90 95
E--> 1438 ggg cca gag ctg gag ccg gat gaa ggg cct gag gag cca gga gag
      1439 aag 336
      1440 Gly Pro Glu Leu Glu Pro Asp Glu Gly Pro Glu Glu Pro Gly Glu
W--> 1441 Lys
W--> 1442 100 105 110
E--> 1443 ttt cgg agg ctg gca ggc gaa ggg ggt gat ccg gcc ttg ccc cga
      1444 ccc 384
      1445 Phe Arg Arg Leu Ala Gly Glu Gly Gly Asp Pro Ala Leu Pro Arg
W--> 1446 Pro
W--> 1447 115 120 125
E--> 1448 cgg ctg tat cct gca gct cct gct atg ccc agc cca gat gtg gta
      1449 tac 432
      1450 Arg Leu Tyr Pro Ala Ala Pro Ala Met Pro Ser Pro Asp Val Val
W--> 1451 Tyr
W--> 1452 130 135 140
E--> 1453 ggg gcc tta ccg cca cca ggc tgt gac ccc agt ggg ctt ggg gaa
      1454 gca 480
      1455 Gly Ala Leu Pro Pro Pro Gly Cys Asp Pro Ser Gly Leu Gly Glu
W--> 1456 Ala
W--> 1457 145 150 155
E--> 1458 160
E--> 1459 ctg ccc gcc cag agc cgc cca tct ccc ttc cga cca gca gcc ccc
      1460 aaa 528
      1461 Leu Pro Ala Gln Ser Arg Pro Ser Pro Phe Arg Pro Ala Ala Pro
W--> 1462 Lys
W--> 1463 165 170 175
E--> 1464 gcc ggg ccc cca ggc ctg gtg cac cct ctc ttc tca cca agc cac
      1465 ctc 576
      1466 Ala Gly Pro Pro Gly Leu Val His Pro Leu Phe Ser Pro Ser His
W--> 1467 Leu
W--> 1468 180 185 190
E--> 1469 acc agc aag aca cca ccc cca ctg tac ctg ccg acg gaa ggg cgg
      1470 agg 624
      1471 Thr Ser Lys Thr Pro Pro Pro Leu Tyr Leu Pro Thr Glu Gly Arg
W--> 1472 Arg
W--> 1473 195 200 205
E--> 1474 tca gac ctg cct ggt ggc ctg gct ggg ccc cga ggg gga cta aac
      1475 acc 672

```

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/749,728

DATE: 10/03/2001

TIME: 15:39:28

Input Set : A:\pto_vsk.txt

Output Set: N:\CRF3\10032001\I749728.raw

```

1476 Ser Asp Leu Pro Gly Gly Leu Ala Gly Pro Arg Gly Gly Leu Asn
W--> 1477 Thr
W--> 1478      210                      215                      220
E--> 1479 tcc aga agc ctc tac agt ggc ctg cag aac ccc tgc tcc act gca
1480 act      720
1481 Ser Arg Ser Leu Tyr Ser Gly Leu Gln Asn Pro Cys Ser Thr Ala
W--> 1482 Thr
W--> 1483 225                      230                      235
E--> 1484 240
E--> 1485 ccc gga ccc cca ctg ggg agc ttc ccc ttc ctc ccc gga ggc ccc
1486 cca      768
1487 Pro Gly Pro Pro Leu Gly Ser Phe Pro Phe Leu Pro Gly Gly Pro
W--> 1488 Pro
W--> 1489                      245                      250                      255
E--> 1490 gtg ggg gcc gaa gcc tgg gcg agg agg gtc ccc caa ccc gcg gcg
1491 cct      816
1492 Val Gly Ala Glu Ala Trp Ala Arg Arg Val Pro Gln Pro Ala Ala
W--> 1493 Pro
W--> 1494                      260                      265                      270
E--> 1495 ccc cgc cga ccc ccc cag tca gca tca agt ctg agc gcc tct ctc
1496 cgg      864
1497 Pro Arg Arg Pro Pro Gln Ser Ala Ser Ser Leu Ser Ala Ser Leu
W--> 1498 Arg
W--> 1499                      275                      280                      285
E--> 1500 ccc ccg ggg gcc ccg gcg act ttc cta aga cct tcc cct atc cct
1501 tgc      912
1502 Pro Pro Gly Ala Pro Ala Thr Phe Leu Arg Pro Ser Pro Ile Pro
W--> 1503 Cys
W--> 1504      290                      295                      300
E--> 1505 tcc tcg ccc ggt ccc tgg cag agc ctc tgc ggc ctg ggc ccg ccc
1506 tgc      960
1507 Ser Ser Pro Gly Pro Trp Gln Ser Leu Cys Gly Leu Gly Pro Pro
W--> 1508 Cys
W--> 1509 305                      310                      315
E--> 1510 320
E--> 1511 gcc ggc tgc cct tgg ccg acg gct ggc ccc ggt agg aga tca ccc
1512 ggt      1008
1513 Ala Gly Cys Pro Trp Pro Thr Ala Gly Pro Gly Arg Arg Ser Pro
W--> 1514 Gly
W--> 1515                      325                      330                      335
E--> 1516 ggc acc agc cca gag cgc tcg cca ggt acg gcg agg gca cgt ggg
1517 gac      1056
1518 Gly Thr Ser Pro Glu Arg Ser Pro Gly Thr Ala Arg Ala Arg Gly
W--> 1519 Asp
W--> 1520                      340                      345                      350
E--> 1521 ccc acc tcc ctc cag gcc tct tca gag aag acc caa cag
1522                      1095
1523 Pro Thr Ser Leu Gln Ala Ser Ser Glu Lys Thr Gln Gln
W--> 1524                      355                      360                      365

```

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/749,728

DATE: 10/03/2001

TIME: 15:39:28

Input Set : A:\pto_vsk.txt

Output Set: N:\CRF3\10032001\I749728.raw

```

1525 <210> SEQ ID NO: 17
1526 <211> LENGTH: 465
1527 <212> TYPE: PRT
1528 <213> ORGANISM: Homo sapiens
W--> 1529 <400> SEQUENCE: 17
1530 Met Gly Arg Lys Lys Ile Gln Ile Thr Arg Ile Met Asp Glu Arg
E--> 1531 Asn
E--> 1532      1              5              10              15
1533 Arg Gln Val Thr Phe Thr Lys Arg Lys Phe Gly Leu Met Lys Lys
E--> 1534 Ala
E--> 1535      20              25              30
1536 Tyr Glu Leu Ser Val Leu Cys Asp Cys Glu Ile Ala Leu Ile Ile
E--> 1537 Phe
E--> 1538      35              40              45
1539 Asn Ser Thr Asn Lys Leu Phe Gln Tyr Ala Ser Thr Asp Met Asp
E--> 1540 Lys
E--> 1541      50              55              60
1542 Val Leu Leu Lys Tyr Thr Glu Tyr Asn Glu Pro His Glu Ser Arg
E--> 1543 Thr
E--> 1544      65              70              75
E--> 1545      80
1546 Asn Ser Asp Ile Val Glu Thr Leu Arg Lys Lys Gly Leu Asn Gly
E--> 1547 Cys
E--> 1548      85              90              95
1549 Asp Ser Pro Asp Pro Asp Ala Asp Asp Ser Val Gly His Ser Pro
E--> 1550 Glu
E--> 1551      100             105             110
1552 Ser Glu Asp Lys Tyr Arg Lys Ile Asn Glu Asp Ile Asp Leu Met
E--> 1553 Ile
E--> 1554      115             120             125
1555 Ser Arg Gln Arg Leu Cys Ala Val Pro Pro Pro Asn Phe Glu Met
E--> 1556 Pro
E--> 1557      130             135             140
1558 Val Ser Ile Pro Val Ser Ser His Asn Ser Leu Val Tyr Ser Asn
E--> 1559 Pro
E--> 1560      145             150             155
E--> 1561      160
1562 Val Ser Ser Leu Gly Asn Pro Asn Leu Leu Pro Leu Ala His Pro
E--> 1563 Ser
E--> 1564      165             170             175
1565 Leu Gln Arg Asn Ser Met Ser Pro Gly Val Thr His Arg Pro Pro
E--> 1566 Ser
E--> 1567      180             185             190
1568 Ala Gly Asn Thr Gly Gly Leu Met Gly Gly Asp Leu Thr Ser Gly
E--> 1569 Ala
E--> 1570      195             200             205
1571 Gly Thr Ser Ala Gly Asn Gly Tyr Gly Asn Pro Arg Asn Ser Pro
E--> 1572 Gly
E--> 1573      210             215             220

```

RAW SEQUENCE LISTING

DATE: 10/03/2001

PATENT APPLICATION: US/09/749,728

TIME: 15:39:28

Input Set : A:\pto_vsk.txt

Output Set: N:\CRF3\10032001\I749728.raw

```

1574 Leu Leu Val Ser Pro Gly Asn Leu Asn Lys Asn Met Gln Ala Lys
E--> 1575 Ser
E--> 1576 225                230                235
E--> 1577 240
1578 Pro Pro Pro Met Asn Leu Gly Met Asn Asn Arg Lys Pro Asp Leu
E--> 1579 Arg
E--> 1580                245                250                255
1581 Val Leu Ile Pro Pro Gly Ser Lys Asn Thr Met Pro Ser Val Asn
E--> 1582 Gln
E--> 1583                260                265                270
1584 Arg Ile Asn Asn Ser Gln Ser Ala Gln Ser Leu Ala Thr Pro Val
E--> 1585 Val
E--> 1586                275                280                285
1587 Ser Val Ala Thr Pro Thr Leu Pro Gly Gln Gly Met Gly Gly Tyr
E--> 1588 Pro
E--> 1589                290                295                300
1590 Ser Ala Ile Ser Thr Thr Tyr Gly Thr Glu Tyr Ser Leu Ser Ser
E--> 1591 Ala
E--> 1592 305                310                315
E--> 1593 320
1594 Asp Leu Ser Ser Leu Ser Gly Phe Asn Thr Ala Ser Ala Leu His
E--> 1595 Leu
E--> 1596                325                330                335
1597 Gly Ser Val Thr Gly Trp Gln Gln Gln His Leu His Asn Met Pro
E--> 1598 Pro
E--> 1599                340                345                350
1600 Ser Ala Leu Ser Gln Leu Gly Ala Cys Thr Ser Thr His Leu Ser
E--> 1601 Gln
E--> 1602                355                360                365
1603 Ser Ser Asn Leu Ser Leu Pro Ser Thr Gln Ser Leu Asn Ile Lys
E--> 1604 Ser
E--> 1605                370                375                380
1606 Glu Pro Val Ser Pro Pro Arg Asp Arg Thr Thr Thr Pro Ser Arg
E--> 1607 Tyr
E--> 1608 385                390                395
E--> 1609 400
1610 Pro Gln His Thr Arg His Glu Ala Gly Arg Ser Pro Val Asp Ser
E--> 1611 Leu
E--> 1612                405                410                415
1613 Ser Ser Cys Ser Ser Ser Tyr Asp Gly Ser Asp Arg Glu Asp His
E--> 1614 Arg
E--> 1615                420                425                430
1616 Asn Glu Phe His Ser Pro Ile Gly Leu Thr Arg Pro Ser Pro Asp
E--> 1617 Glu
E--> 1618                435                440                445
1619 Arg Glu Ser Pro Ser Val Lys Arg Met Arg Leu Ser Glu Gly Trp
E--> 1620 Ala
E--> 1621                450                455                460
1622 Thr

```

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/749,728

DATE: 10/03/2001

TIME: 15:39:28

Input Set : A:\pto_vsk.txt

Output Set: N:\CRF3\10032001\I749728.raw

```

1623 <210> SEQ ID NO: 18
1624 <211> LENGTH: 1395
1625 <212> TYPE: DNA
1626 <213> ORGANISM: Homo sapiens
W--> 1627 <220> FEATURE:
1628 <221> NAME/KEY: CDS
1629 <223> OTHER INFORMATION: (1)..(1398)
W--> 1630 <400> SEQUENCE: 18
E--> 1631 atg ggg aga aaa aag att cag att acg agg att atg gat gaa cgt
1632 aac 48
1633 Met Gly Arg Lys Lys Ile Gln Ile Thr Arg Ile Met Asp Glu Arg
W--> 1634 Asn
W--> 1635 1 5 10 15
E--> 1636 aga cag gtg aca ttt aca aag agg aaa ttt ggg ttg atg aag aag
1637 gct 96
1638 Arg Gln Val Thr Phe Thr Lys Arg Lys Phe Gly Leu Met Lys Lys
W--> 1639 Ala
W--> 1640 20 25 30
E--> 1641 tat gag ctg agc gtg ctg tgt gac tgt gag att gcg ctg atc atc
1642 ttc 144
1643 Tyr Glu Leu Ser Val Leu Cys Asp Cys Glu Ile Ala Leu Ile Ile
W--> 1644 Phe
W--> 1645 35 40 45
E--> 1646 aac agc acc aac aag ctg ttc cag tat gcc agc acc gac atg gac
1647 aaa 192
1648 Asn Ser Thr Asn Lys Leu Phe Gln Tyr Ala Ser Thr Asp Met Asp
W--> 1649 Lys
W--> 1650 50 55 60
E--> 1651 gtg ctt ctc aag tac acg gag tac aac gag ccg cat gag agc cgg
1652 aca 240
1653 Val Leu Leu Lys Tyr Thr Glu Tyr Asn Glu Pro His Glu Ser Arg
W--> 1654 Thr
W--> 1655 65 70 75
E--> 1656 80
E--> 1657 aac tca gac atc gtg gag acg ttg aga aag aag ggc ctt aat ggc
1658 tgt 288
1659 Asn Ser Asp Ile Val Glu Thr Leu Arg Lys Lys Gly Leu Asn Gly
W--> 1660 Cys
W--> 1661 85 90 95
E--> 1662 gac agc cca gac ccc gat gcg gac gat tcc gta ggt cac agc cct
1663 gag 336
1664 Asp Ser Pro Asp Pro Asp Ala Asp Asp Ser Val Gly His Ser Pro
W--> 1665 Glu
W--> 1666 100 105 110
E--> 1667 tct gag gac aag tac agg aaa att aac gaa gat att gat cta atg
1668 atc 384
1669 Ser Glu Asp Lys Tyr Arg Lys Ile Asn Glu Asp Ile Asp Leu Met
W--> 1670 Ile
W--> 1671 115 120 125

```

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/749,728

DATE: 10/03/2001

TIME: 15:39:28

Input Set : A:\pto_vsk.txt

Output Set: N:\CRF3\10032001\I749728.raw

```

E--> 1672 agc agg caa aga ttg tgt gct gtt cca cct ccc aac ttc gag atg
      1673 cca 432
      1674 Ser Arg Gln Arg Leu Cys Ala Val Pro Pro Pro Asn Phe Glu Met
W--> 1675 Pro
W--> 1676      130                      135                      140
E--> 1677 gtc tcc atc cca gtg tcc agc cac aac agt ttg gtg tac agc aac
      1678 cct 480
      1679 Val Ser Ile Pro Val Ser Ser His Asn Ser Leu Val Tyr Ser Asn
W--> 1680 Pro
W--> 1681 145                      150                      155
E--> 1682 160
E--> 1683 gtc agc tca ctg gga aac ccc aac cta ttg cca ctg gct cac cct
      1684 tct 528
      1685 Val Ser Ser Leu Gly Asn Pro Asn Leu Leu Pro Leu Ala His Pro
W--> 1686 Ser
W--> 1687                      165                      170                      175
E--> 1688 ctg cag agg aat agt atg tct cct ggt gta aca cat cga cct cca
      1689 agt 576
      1690 Leu Gln Arg Asn Ser Met Ser Pro Gly Val Thr His Arg Pro Pro
W--> 1691 Ser
W--> 1692                      180                      185                      190
E--> 1693 gca ggt aac aca ggt ggt ctg atg ggt gga gac ctc acg tct ggt
      1694 gca 624
      1695 Ala Gly Asn Thr Gly Gly Leu Met Gly Gly Asp Leu Thr Ser Gly
W--> 1696 Ala
W--> 1697                      195                      200                      205
E--> 1698 ggc acc agt gca ggg aac ggg tat ggc aat ccc cga aac tca cca
      1699 ggt 672
      1700 Gly Thr Ser Ala Gly Asn Gly Tyr Gly Asn Pro Arg Asn Ser Pro
W--> 1701 Gly
W--> 1702      210                      215                      220
E--> 1703 ctg ctg gtc tca cct ggt aac ttg aac aag aat atg caa gca aaa
      1704 tct 720
      1705 Leu Leu Val Ser Pro Gly Asn Leu Asn Lys Asn Met Gln Ala Lys
W--> 1706 Ser
W--> 1707 225                      230                      235
E--> 1708 240
E--> 1709 cct ccc cca atg aat tta gga atg aat aac cgt aaa cca gat ctc
      1710 cga 768
      1711 Pro Pro Pro Met Asn Leu Gly Met Asn Asn Arg Lys Pro Asp Leu
W--> 1712 Arg
W--> 1713                      245                      250                      255
E--> 1714 gtt ctt att cca cca ggc agc aag aat acg atg cca tca gtg aat
      1715 caa 816
      1716 Val Leu Ile Pro Pro Gly Ser Lys Asn Thr Met Pro Ser Val Asn
W--> 1717 Gln
W--> 1718                      260                      265                      270
E--> 1719 agg ata aat aac tcc cag tcg gct cag tca ttg gct acc cca gtg
      1720 gtt 864

```

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/749,728

DATE: 10/03/2001

TIME: 15:39:28

Input Set : A:\pto_vsk.txt

Output Set: N:\CRF3\10032001\I749728.raw

```

1721 Arg Ile Asn Asn Ser Gln Ser Ala Gln Ser Leu Ala Thr Pro Val
W--> 1722 Val
W--> 1723          275          280          285
E--> 1724 tcc gta gca act cct act tta cca gga caa gga atg gga gga tat
      1725 cca 912
      1726 Ser Val Ala Thr Pro Thr Leu Pro Gly Gln Gly Met Gly Gly Tyr
W--> 1727 Pro
W--> 1728          290          295          300
E--> 1729 tca gcc att tca aca aca tat ggt acc gag tac tct ctg agt agt
      1730 gca 960
      1731 Ser Ala Ile Ser Thr Thr Tyr Gly Thr Glu Tyr Ser Leu Ser Ser
W--> 1732 Ala
W--> 1733 305          310          315
E--> 1734 320
E--> 1735 gac ctg tca tct ctg tct ggg ttt aac acc gcc agc gct ctt cac
      1736 ctt 1008
      1737 Asp Leu Ser Ser Leu Ser Gly Phe Asn Thr Ala Ser Ala Leu His
W--> 1738 Leu
W--> 1739          325          330          335
E--> 1740 ggt tca gta act ggc tgg caa cag caa cac cta cat aac atg cca
      1741 cca 1056
      1742 Gly Ser Val Thr Gly Trp Gln Gln Gln His Leu His Asn Met Pro
W--> 1743 Pro
W--> 1744          340          345          350
E--> 1745 tct gcc ctc agt cag ttg gga gct tgc act agc act cat tta tct
      1746 cag 1104
      1747 Ser Ala Leu Ser Gln Leu Gly Ala Cys Thr Ser Thr His Leu Ser
W--> 1748 Gln
W--> 1749          355          360          365
E--> 1750 agt tca aat ctc tcc ctg cct tct act caa agc ctc aac atc aag
      1751 tca 1152
      1752 Ser Ser Asn Leu Ser Leu Pro Ser Thr Gln Ser Leu Asn Ile Lys
W--> 1753 Ser
W--> 1754          370          375          380
E--> 1755 gaa cct gtt tct cct cct aga gac cgt acc acc acc cct tcg aga
      1756 tac 1200
      1757 Glu Pro Val Ser Pro Pro Arg Asp Arg Thr Thr Thr Pro Ser Arg
W--> 1758 Tyr
W--> 1759 385          390          395
E--> 1760 400
E--> 1761 cca caa cac acg cgc cac gag gcg ggg aga tct cct gtt gac agc
      1762 ttg 1248
      1763 Pro Gln His Thr Arg His Glu Ala Gly Arg Ser Pro Val Asp Ser
W--> 1764 Leu
W--> 1765          405          410          415
E--> 1766 agc agc tgt agc agt tcg tac gac ggg agc gac cga gag gat cac
      1767 cgg 1296
      1768 Ser Ser Cys Ser Ser Ser Tyr Asp Gly Ser Asp Arg Glu Asp His
W--> 1769 Arg

```

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/749,728

DATE: 10/03/2001

TIME: 15:39:28

Input Set : A:\pto_vsk.txt

Output Set: N:\CRF3\10032001\I749728.raw

```

W--> 1770          420          425          430
E--> 1771 aac gaa ttc cac tcc ccc att gga ctc acc aga cct tcg ccg gac
      1772 gaa 1344
      1773 Asn Glu Phe His Ser Pro Ile Gly Leu Thr Arg Pro Ser Pro Asp
W--> 1774 Glu
W--> 1775          435          440          445
E--> 1776 agg gaa agt ccc tca gtc aag cgc atg cga ctt tct gaa gga tgg
      1777 gca 1392
      1778 Arg Glu Ser Pro Ser Val Lys Arg Met Arg Leu Ser Glu Gly Trp
W--> 1779 Ala
W--> 1780          450          455          460
E--> 1781 aca
      1782 1395
      1783 Thr
W--> 1784 465
      1785 <210> SEQ ID NO: 19
      1786 <211> LENGTH: 521
      1787 <212> TYPE: PRT
      1788 <213> ORGANISM: Homo sapiens
W--> 1789 <400> SEQUENCE: 19
      1790 Met Gly Arg Lys Lys Ile Gln Ile Gln Arg Ile Thr Asp Glu Arg
E--> 1791 Asn
E--> 1792 1 5 10 15
      1793 Arg Gln Val Thr Phe Thr Lys Arg Lys Phe Gly Leu Met Lys Lys
E--> 1794 Ala
E--> 1795 20 25 30
      1796 Tyr Glu Leu Ser Val Leu Cys Asp Cys Glu Ile Ala Leu Ile Ile
E--> 1797 Phe
E--> 1798 35 40 45
      1799 Asn His Ser Asn Lys Leu Phe Gln Tyr Ala Ser Thr Asp Met Asp
E--> 1800 Lys
E--> 1801 50 55 60
      1802 Val Leu Leu Lys Tyr Thr Glu Tyr Asn Glu Pro His Glu Ser Arg
E--> 1803 Thr
E--> 1804 65 70 75
E--> 1805 80
      1806 Asn Ala Asp Ile Ile Glu Thr Leu Arg Lys Lys Gly Phe Asn Gly
E--> 1807 Cys
E--> 1808 85 90 95
      1809 Asp Ser Pro Glu Pro Asp Gly Glu Asp Ser Leu Glu Gln Ser Pro
E--> 1810 Leu
E--> 1811 100 105 110
      1812 Leu Glu Asp Lys Tyr Arg Arg Ala Ser Glu Glu Leu Asp Gly Leu
E--> 1813 Phe
E--> 1814 115 120 125
      1815 Arg Arg Tyr Gly Ser Thr Val Pro Ala Pro Asn Phe Ala Met Pro
E--> 1816 Val
E--> 1817 130 135 140
      1818 Thr Val Pro Val Ser Asn Gln Ser Ser Leu Gln Phe Ser Asn Pro

```

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/749,728

DATE: 10/03/2001

TIME: 15:39:28

Input Set : A:\pto_vsk.txt

Output Set: N:\CRF3\10032001\I749728.raw

```

1966 Pro Gly Leu Pro Gln Arg Pro Ala Ser Ala Gly Ala Met Leu Gly
W--> 1967 Gly
W--> 1968          195          200          205
E--> 1969 gac ctg aac agt gct aac gga gcc tgc ccc agc cct gtt ggg aat
1970 ggc 672
1971 Asp Leu Asn Ser Ala Asn Gly Ala Cys Pro Ser Pro Val Gly Asn
W--> 1972 Gly
W--> 1973          210          215          220
E--> 1974 tac gtc agt gct cgg gct tcc cct ggc ctc ctc cct gtg gcc aat
1975 ggc 720
1976 Tyr Val Ser Ala Arg Ala Ser Pro Gly Leu Leu Pro Val Ala Asn
W--> 1977 Gly
W--> 1978 225          230          235
E--> 1979 240
E--> 1980 aac agc cta aac aag gtc atc cct gcc aag tct ccg ccc cca cct
1981 acc 768
1982 Asn Ser Leu Asn Lys Val Ile Pro Ala Lys Ser Pro Pro Pro Pro
W--> 1983 Thr
W--> 1984          245          250          255
E--> 1985 cac agc acc cag ctt gga gcc ccc agc cgc aag ccc gac ctg cga
1986 gtc 816
1987 His Ser Thr Gln Leu Gly Ala Pro Ser Arg Lys Pro Asp Leu Arg
W--> 1988 Val
W--> 1989          260          265          270
E--> 1990 atc act tcc cag gca gga aag ggg tta atg cat cac ttg act gag
1991 gac 864
1992 Ile Thr Ser Gln Ala Gly Lys Gly Leu Met His His Leu Thr Glu
W--> 1993 Asp
W--> 1994          275          280          285
E--> 1995 cat tta gat ctg aac aat gcc cag cgc ctt ggg gtc tcc cag tct
1996 act 912
1997 His Leu Asp Leu Asn Asn Ala Gln Arg Leu Gly Val Ser Gln Ser
W--> 1998 Thr
W--> 1999          290          295          300
E--> 2000 cat tcg ctc acc acc cca gtg gtt tct gtg gca acg ccg agt tta
2001 ctc 960
2002 His Ser Leu Thr Thr Pro Val Val Ser Val Ala Thr Pro Ser Leu
W--> 2003 Leu
W--> 2004 305          310          315
E--> 2005 320
E--> 2006 agc cag ggc ctc ccc ttc tct tcc atg ccc act gcc tac aac aca
2007 gat 1008
2008 Ser Gln Gly Leu Pro Phe Ser Ser Met Pro Thr Ala Tyr Asn Thr
W--> 2009 Asp
W--> 2010          325          330          335
E--> 2011 tac cag ttg acc agt gca gag ctc tcc tcc tta cca gcc ttt agt
2012 tca 1056
2013 Tyr Gln Leu Thr Ser Ala Glu Leu Ser Ser Leu Pro Ala Phe Ser
W--> 2014 Ser

```

RAW SEQUENCE LISTING

DATE: 10/03/2001

PATENT APPLICATION: US/09/749,728

TIME: 15:39:28

Input Set : A:\pto_vsk.txt

Output Set: N:\CRF3\10032001\I749728.raw

```

W--> 2015          340          345          350
E--> 2016 cct ggg ggg ctg tgc cta ggc aat gtc act gcc tgg caa cag cca
      2017 cag 1104
      2018 Pro Gly Gly Leu Ser Leu Gly Asn Val Thr Ala Trp Gln Gln Pro
W--> 2019 Gln
W--> 2020          355          360          365
E--> 2021 cag ccc cag cag ccg cag cag cca cag cct cca cag cag cag cca
      2022 ccg 1152
      2023 Gln Pro Gln Gln Pro Gln Gln Pro Gln Pro Pro Gln Gln Gln Pro
W--> 2024 Pro
W--> 2025          370          375          380
E--> 2026 cag cca cag cag cca cag cca cag cag cct cag cag ccg caa cag
      2027 cca 1200
      2028 Gln Pro Gln Gln Pro Gln Pro Gln Gln Pro Gln Gln Pro Gln Gln
W--> 2029 Pro
W--> 2030 385          390          395
E--> 2031 400
E--> 2032 cct cag caa cag tcc cac ctg gtc cct gta tct ctc agc aac ctc
      2033 atc 1248
      2034 Pro Gln Gln Gln Ser His Leu Val Pro Val Ser Leu Ser Asn Leu
W--> 2035 Ile
W--> 2036          405          410          415
E--> 2037 ccg ggc agc ccc ctg ccc cac gtg ggt gct gcc ctc aca gtc acc
      2038 acc 1296
      2039 Pro Gly Ser Pro Leu Pro His Val Gly Ala Ala Leu Thr Val Thr
W--> 2040 Thr
W--> 2041          420          425          430
E--> 2042 cac ccc cac atc agc atc aag tca gaa ccg gtg tcc cca agc cgt
      2043 gag 1344
      2044 His Pro His Ile Ser Ile Lys Ser Glu Pro Val Ser Pro Ser Arg
W--> 2045 Glu
W--> 2046          435          440          445
E--> 2047 cgc agc cct gcg cct ccc cct cca gct gtg ttc cca gct gcc cgc
      2048 cct 1392
      2049 Arg Ser Pro Ala Pro Pro Pro Pro Ala Val Phe Pro Ala Ala Arg
W--> 2050 Pro
W--> 2051          450          455          460
E--> 2052 gag cct ggc gat ggt ctc agc agc cca gcc ggg gga tcc tat gag
      2053 acg 1440
      2054 Glu Pro Gly Asp Gly Leu Ser Ser Pro Ala Gly Gly Ser Tyr Glu
W--> 2055 Thr
W--> 2056 465          470          475
E--> 2057 480
E--> 2058 gga gac cgg gat gac gga cgg ggg gac ttc ggg ccc aca ctg ggc
      2059 ctg 1488
      2060 Gly Asp Arg Asp Asp Gly Arg Gly Asp Phe Gly Pro Thr Leu Gly
W--> 2061 Leu
W--> 2062          485          490          495
E--> 2063 ctg cgc cca gcc cca gag cct gag gct gag ggc tca gct gtg aag

```

RAW SEQUENCE LISTING

DATE: 10/03/2001

PATENT APPLICATION: US/09/749,728

TIME: 15:39:28

Input Set : A:\pto_vsk.txt

Output Set: N:\CRF3\10032001\I749728.raw

```

2064 agg      1536
2065 Leu Arg Pro Ala Pro Glu Pro Glu Ala Glu Gly Ser Ala Val Lys
W--> 2066 Arg
W--> 2067              500              505              510
E--> 2068 atg cgg ctt gat acc tgg aca tta aag
2069              1563
2070 Met Arg Leu Asp Thr Trp Thr Leu Lys
W--> 2071              515              520
2072 <210> SEQ ID NO: 21
2073 <211> LENGTH: 217
2074 <212> TYPE: PRT
2075 <213> ORGANISM: Rattus norvegicus
W--> 2076 <400> SEQUENCE: 21
2077 Met Ser Leu Val Gly Gly Phe Pro His His Pro Val Val His His
E--> 2078 Glu
E--> 2079      1              5              10              15
2080 Gly Tyr Pro Phe Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala
E--> 2081 Ala
E--> 2082              20              25              30
2083 Ser Arg Cys Ser His Glu Glu Asn Pro Tyr Phe His Gly Trp Leu
E--> 2084 Ile
E--> 2085              35              40              45
2086 Gly His Pro Glu Met Ser Pro Pro Asp Tyr Ser Met Ala Leu Ser
E--> 2087 Tyr
E--> 2088              50              55              60
2089 Ser Pro Glu Tyr Ala Ser Gly Ala Ala Gly Leu Asp His Ser His
E--> 2090 Tyr
E--> 2091      65              70              75
E--> 2092      80
2093 Gly Gly Val Pro Pro Gly Ala Gly Pro Pro Gly Leu Gly Gly Pro
E--> 2094 Arg
E--> 2095              85              90              95
2096 Pro Val Lys Arg Arg Gly Thr Ala Asn Arg Lys Glu Arg Arg Arg
E--> 2097 Thr
E--> 2098              100              105              110
2099 Gln Ser Ile Asn Ser Ala Phe Ala Glu Leu Arg Glu Cys Ile Pro
E--> 2100 Asn
E--> 2101              115              120              125
2102 Val Pro Ala Asp Thr Lys Leu Ser Lys Ile Lys Thr Leu Arg Leu
E--> 2103 Ala
E--> 2104              130              135              140
2105 Thr Ser Tyr Ile Ala Tyr Leu Met Asp Leu Leu Ala Lys Asp Asp
E--> 2106 Gln
E--> 2107      145              150              155
E--> 2108      160
2109 Asn Gly Glu Ala Glu Ala Phe Lys Ala Glu Ile Lys Lys Thr Asp
E--> 2110 Val
E--> 2111              165              170              175
2112 Lys Glu Glu Lys Arg Lys Lys Glu Leu Asn Glu Ile Leu Lys Ser

```

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Input Set : A:\pto_vsk.txt

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```

E--> 2113 Thr
E--> 2114          180          185          190
      2115 Val Ser Ser Asn Asp Lys Lys Thr Lys Gly Arg Thr Gly Trp Pro
E--> 2116 Gln
E--> 2117          195          200          205
      2118 His Val Trp Ala Leu Glu Leu Lys Gln
E--> 2119          210          215
      2120 <210> SEQ ID NO: 22
      2121 <211> LENGTH: 651
      2122 <212> TYPE: DNA
      2123 <213> ORGANISM: Rattus norvegicus
W--> 2124 <220> FEATURE:
      2125 <221> NAME/KEY: CDS
      2126 <223> OTHER INFORMATION: (1)..(654)
W--> 2127 <400> SEQUENCE: 22
E--> 2128 atg agt ctg gtg ggg ggc ttt ccc cac cac ccc gtg gtg cac cat
      2129 gag 48
      2130 Met Ser Leu Val Gly Gly Phe Pro His His Pro Val Val His His
W--> 2131 Glu
W--> 2132 1          5          10          15
E--> 2133 ggc tac ccg ttc gcc gca gcc gca gcc gcc gct gct gct gcc gcc
      2134 gcc 96
      2135 Gly Tyr Pro Phe Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala
W--> 2136 Ala
W--> 2137          20          25          30
E--> 2138 agc cgc tgc agt cac gag gag aac ccc tat ttc cac ggc tgg ctt
      2139 att 144
      2140 Ser Arg Cys Ser His Glu Glu Asn Pro Tyr Phe His Gly Trp Leu
W--> 2141 Ile
W--> 2142          35          40          45
E--> 2143 ggc cac ccg gag atg tcg ccc ccc gac tac agc atg gcc ctg tcc
      2144 tac 192
      2145 Gly His Pro Glu Met Ser Pro Pro Asp Tyr Ser Met Ala Leu Ser
W--> 2146 Tyr
W--> 2147          50          55          60
E--> 2148 agt ccc gag tac gcc agc ggt gcc gcg ggc ctg gac cac tcc cat
      2149 tat 240
      2150 Ser Pro Glu Tyr Ala Ser Gly Ala Ala Gly Leu Asp His Ser His
W--> 2151 Tyr
W--> 2152 65          70          75
E--> 2153 80
E--> 2154 ggg gga gtg ccg ccc ggt gcc ggg cct ccc ggc ctg ggg ggg ccg
      2155 cgc 288
      2156 Gly Gly Val Pro Pro Gly Ala Gly Pro Pro Gly Leu Gly Gly Pro
W--> 2157 Arg
W--> 2158          85          90          95
E--> 2159 ccg gtg aag cgt cgg ggc acc gcc aac cgc aag gag cgg cgc agg
      2160 act 336
      2161 Pro Val Lys Arg Arg Gly Thr Ala Asn Arg Lys Glu Arg Arg Arg

```

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/749,728

DATE: 10/03/2001

TIME: 15:39:28

Input Set : A:\pto_vsk.txt

Output Set: N:\CRF3\10032001\I749728.raw

```

W--> 2162 Thr
W--> 2163          100          105          110
E--> 2164 cag agc atc aac agc gcc ttc gcc gag ctg cgc gag tgc atc ccc
      2165 aac 384
      2166 Gln Ser Ile Asn Ser Ala Phe Ala Glu Leu Arg Glu Cys Ile Pro
W--> 2167 Asn
W--> 2168          115          120          125
E--> 2169 gtg ccc gcc gac acc aaa ctc tcc aaa atc aag act ctg cgc ctg
      2170 gcc 432
      2171 Val Pro Ala Asp Thr Lys Leu Ser Lys Ile Lys Thr Leu Arg Leu
W--> 2172 Ala
W--> 2173          130          135          140
E--> 2174 acc agc tac atc gcc tac ctc atg gat ctg ctg gcc aag gac gac
      2175 cag 480
      2176 Thr Ser Tyr Ile Ala Tyr Leu Met Asp Leu Leu Ala Lys Asp Asp
W--> 2177 Gln
W--> 2178 145          150          155
E--> 2179 160
E--> 2180 aac gga gag gcg gag gcc ttc aag gcg gag atc aag aag acc gac
      2181 gtg 528
      2182 Asn Gly Glu Ala Glu Ala Phe Lys Ala Glu Ile Lys Lys Thr Asp
W--> 2183 Val
W--> 2184          165          170          175
E--> 2185 aaa gag gag aag agg aag aaa gag ctg aat gaa atc ttg aaa agt
      2186 aca 576
      2187 Lys Glu Glu Lys Arg Lys Lys Glu Leu Asn Glu Ile Leu Lys Ser
W--> 2188 Thr
W--> 2189          180          185          190
E--> 2190 gtg agc agc aac gac aag aaa acc aaa ggc cgg aca ggc tgg cca
      2191 cag 624
      2192 Val Ser Ser Asn Asp Lys Lys Thr Lys Gly Arg Thr Gly Trp Pro
W--> 2193 Gln
W--> 2194          195          200          205
E--> 2195 cac gtc tgg gcc ctg gag ctc aag cag
      2196 651
      2197 His Val Trp Ala Leu Glu Leu Lys Gln
W--> 2198          210          215
      2199 <210> SEQ ID NO: 23
      2200 <211> LENGTH: 215
      2201 <212> TYPE: PRT
      2202 <213> ORGANISM: Homo sapiens
W--> 2203 <400> SEQUENCE: 23
      2204 Met Asn Leu Val Gly Ser Tyr Ala His His His His His His
E--> 2205 Pro
E--> 2206 1          5          10          15
      2207 His Pro Ala His Pro Met Leu His Glu Pro Phe Leu Phe Gly Pro
E--> 2208 Ala
E--> 2209          20          25          30
      2210 Ser Arg Cys His Gln Glu Arg Pro Tyr Phe Gln Ser Trp Leu Leu

```

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/749,728

DATE: 10/03/2001

TIME: 15:39:28

Input Set : A:\pto_vsk.txt

Output Set: N:\CRF3\10032001\I749728.raw

```

E--> 2211 Ser
E--> 2212          35          40          45
      2213 Pro Ala Asp Ala Ala Pro Asp Phe Pro Ala Gly Gly Pro Pro Pro
E--> 2214 Ala
E--> 2215          50          55          60
      2216 Ala Ala Ala Ala Ala Thr Ala Tyr Gly Pro Asp Ala Arg Pro Gly
E--> 2217 Gln
E--> 2218 65          70          75
E--> 2219 80
      2220 Ser Pro Gly Arg Leu Glu Ala Leu Gly Gly Arg Leu Gly Arg Arg
E--> 2221 Lys
E--> 2222          85          90          95
      2223 Gly Ser Gly Pro Lys Lys Glu Arg Arg Arg Thr Glu Ser Ile Asn
E--> 2224 Ser
E--> 2225          100          105          110
      2226 Ala Phe Ala Glu Leu Arg Glu Cys Ile Pro Asn Val Pro Ala Asp
E--> 2227 Thr
E--> 2228          115          120          125
      2229 Lys Leu Ser Lys Ile Lys Thr Leu Arg Leu Ala Thr Ser Tyr Ile
E--> 2230 Ala
E--> 2231          130          135          140
      2232 Tyr Leu Met Asp Val Leu Ala Lys Asp Ala Gln Ser Gly Asp Pro
E--> 2233 Glu
E--> 2234 145          150          155
E--> 2235 160
      2236 Ala Phe Lys Ala Glu Leu Lys Lys Ala Asp Gly Gly Arg Glu Ser
E--> 2237 Lys
E--> 2238          165          170          175
      2239 Arg Lys Arg Glu Leu Gln Gln His Glu Gly Phe Pro Pro Ala Leu
E--> 2240 Gly
E--> 2241          180          185          190
      2242 Pro Val Glu Lys Arg Ile Lys Gly Arg Thr Gly Trp Pro Gln Gln
E--> 2243 Val
E--> 2244          195          200          205
      2245 Trp Ala Leu Glu Leu Asn Gln
E--> 2246          210
      2247 <210> SEQ ID NO: 24
      2248 <211> LENGTH: 645
      2249 <212> TYPE: DNA
      2250 <213> ORGANISM: Homo sapiens
W--> 2251 <220> FEATURE:
      2252 <221> NAME/KEY: CDS
      2253 <223> OTHER INFORMATION: (1)..(648)
W--> 2254 <400> SEQUENCE: 24
E--> 2255 atg aac ctc gtc ggc agc tac gca cac cat cac cac cat cac cac
      2256 ccg 48
      2257 Met Asn Leu Val Gly Ser Tyr Ala His His His His His His His
W--> 2258 Pro
W--> 2259 1          5          10          15

```

RAW SEQUENCE LISTING

DATE: 10/03/2001

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TIME: 15:39:28

Input Set : A:\pto_vsk.txt

Output Set: N:\CRF3\10032001\I749728.raw

```

E--> 2260 cac cct gcg cac ccc atg ctc cac gaa ccc ttc ctc ttc ggt ccg
      2261 gcc 96
      2262 His Pro Ala His Pro Met Leu His Glu Pro Phe Leu Phe Gly Pro
W--> 2263 Ala
W--> 2264          20          25          30
E--> 2265 tcg cgc tgt cat cag gaa agg ccc tac ttc cag agc tgg ctg ctg
      2266 agc 144
      2267 Ser Arg Cys His Gln Glu Arg Pro Tyr Phe Gln Ser Trp Leu Leu
W--> 2268 Ser
W--> 2269          35          40          45
E--> 2270 ccg gct gac gct gcc ccg gac ttc cct gcg ggc ggg ccg ccg ccc
      2271 gcg 192
      2272 Pro Ala Asp Ala Ala Pro Asp Phe Pro Ala Gly Gly Pro Pro Pro
W--> 2273 Ala
W--> 2274          50          55          60
E--> 2275 gcc gct gca gcc gcc acc gcc tat ggt cct gac gcc agg cct ggg
      2276 cag 240
      2277 Ala Ala Ala Ala Ala Thr Ala Tyr Gly Pro Asp Ala Arg Pro Gly
W--> 2278 Gln
W--> 2279 65          70          75
E--> 2280 80
E--> 2281 agc ccc ggg cgg ctg gag gcg ctt ggc ggc cgt ctt ggc cgg cgg
      2282 aaa 288
      2283 Ser Pro Gly Arg Leu Glu Ala Leu Gly Gly Arg Leu Gly Arg Arg
W--> 2284 Lys
W--> 2285          85          90          95
E--> 2286 ggc tca gga ccc aag aag gag cgg aga cgc act gag agc att aac
      2287 agc 336
      2288 Gly Ser Gly Pro Lys Lys Glu Arg Arg Arg Thr Glu Ser Ile Asn
W--> 2289 Ser
W--> 2290          100          105          110
E--> 2291 gca ttc gcg gag ttg cgc gag tgc atc ccc aac gtg ccg gcc gac
      2292 acc 384
      2293 Ala Phe Ala Glu Leu Arg Glu Cys Ile Pro Asn Val Pro Ala Asp
W--> 2294 Thr
W--> 2295          115          120          125
E--> 2296 aag ctc tcc aag atc aag act ctg cgc cta gcc acc agc tac atc
      2297 gcc 432
      2298 Lys Leu Ser Lys Ile Lys Thr Leu Arg Leu Ala Thr Ser Tyr Ile
W--> 2299 Ala
W--> 2300          130          135          140
E--> 2301 tac ctg atg gac gtg ctg gcc aag gat gca cag tct ggc gat ccc
      2302 gag 480
      2303 Tyr Leu Met Asp Val Leu Ala Lys Asp Ala Gln Ser Gly Asp Pro
W--> 2304 Glu
W--> 2305 145          150          155
E--> 2306 160
E--> 2307 gcc ttc aag gct gaa ctc aag aag gcg gat ggc ggc cgt gag agc
      2308 aag 528

```

RAW SEQUENCE LISTING

DATE: 10/03/2001

PATENT APPLICATION: US/09/749,728

TIME: 15:39:28

Input Set : A:\pto_vsk.txt

Output Set: N:\CRF3\10032001\I749728.raw

```

2309 Ala Phe Lys Ala Glu Leu Lys Lys Ala Asp Gly Gly Arg Glu Ser
W--> 2310 Lys
W--> 2311                165                170                175
E--> 2312 cgg aaa agg gag ctg cag cag cac gaa ggt ttt cct cct gcc ctg
2313 ggc 576
2314 Arg Lys Arg Glu Leu Gln Gln His Glu Gly Phe Pro Pro Ala Leu
W--> 2315 Gly
W--> 2316                180                185                190
E--> 2317 cca gtc gag aag agg att aaa gga cgc acc ggc tgg ccg cag caa
2318 gtc 624
2319 Pro Val Glu Lys Arg Ile Lys Gly Arg Thr Gly Trp Pro Gln Gln
W--> 2320 Val
W--> 2321                195                200                205
E--> 2322 tgg gcg ctg gag tta aac cag
2323                645
2324 Trp Ala Leu Glu Leu Asn Gln
W--> 2325                210                215
2326 <210> SEQ ID NO: 25
2327 <211> LENGTH: 411
2328 <212> TYPE: PRT
2329 <213> ORGANISM: Homo sapiens
W--> 2330 <400> SEQUENCE: 25
2331 Met Glu Arg Met Ser Asp Ser Ala Asp Lys Pro Ile Asp Asn Asp
E--> 2332 Ala
E--> 2333 1                5                10                15
2334 Glu Gly Val Trp Ser Pro Asp Ile Glu Gln Ser Phe Gln Glu Ala
E--> 2335 Leu
E--> 2336                20                25                30
2337 Ala Ile Tyr Pro Pro Cys Gly Arg Arg Lys Ile Ile Leu Ser Asp
E--> 2338 Glu
E--> 2339                35                40                45
2340 Gly Lys Met Tyr Gly Arg Asn Glu Leu Ile Ala Arg Tyr Ile Lys
E--> 2341 Leu
E--> 2342                50                55                60
2343 Arg Thr Gly Lys Thr Arg Thr Arg Lys Gln Val Ser Ser His Ile
E--> 2344 Gln
E--> 2345 65                70                75
E--> 2346 80
2347 Val Leu Ala Arg Arg Lys Ser Arg Asp Phe His Ser Lys Leu Lys
E--> 2348 Asp
E--> 2349                85                90                95
2350 Gln Thr Ala Lys Asp Lys Ala Leu Gln His Met Ala Ala Met Ser
E--> 2351 Ser
E--> 2352                100                105                110
2353 Ala Gln Ile Val Ser Ala Thr Ala Ile His Asn Lys Leu Gly Leu
E--> 2354 Pro
E--> 2355                115                120                125
2356 Gly Ile Pro Arg Pro Thr Phe Pro Gly Ala Pro Gly Phe Trp Pro
E--> 2357 Gly

```

RAW SEQUENCE LISTING

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DATE: 10/03/2001

TIME: 15:39:28

Input Set : A:\pto_vsk.txt

Output Set: N:\CRF3\10032001\I749728.raw

```

E--> 2358      130              135              140
      2359 Met Ile Gln Thr Gly Gln Pro Gly Ser Ser Gln Asp Val Lys Pro
E--> 2360 Phe
E--> 2361 145              150              155
E--> 2362 160
      2363 Val Gln Gln Ala Tyr Pro Ile Gln Pro Ala Val Thr Ala Pro Ile
E--> 2364 Pro
E--> 2365              165              170              175
      2366 Gly Phe Glu Pro Ala Ser Ala Pro Ala Pro Ser Val Pro Ala Trp
E--> 2367 Gln
E--> 2368              180              185              190
      2369 Gly Arg Ser Ile Gly Thr Thr Lys Leu Arg Leu Val Glu Phe Ser
E--> 2370 Ala
E--> 2371              195              200              205
      2372 Phe Leu Glu Gln Gln Arg Asp Pro Asp Ser Tyr Asn Lys His Leu
E--> 2373 Phe
E--> 2374      210              215              220
      2375 Val His Ile Gly His Ala Asn His Ser Tyr Ser Asp Pro Leu Leu
E--> 2376 Glu
E--> 2377 225              230              235
E--> 2378 240
      2379 Ser Val Asp Ile Arg Gln Ile Tyr Asp Lys Phe Pro Glu Lys Lys
E--> 2380 Gly
E--> 2381              245              250              255
      2382 Gly Leu Lys Glu Leu Phe Gly Lys Gly Pro Gln Asn Ala Phe Phe
E--> 2383 Leu
E--> 2384              260              265              270
      2385 Val Lys Phe Trp Ala Asp Leu Asn Cys Asn Ile Gln Asp Asp Ala
E--> 2386 Gly
E--> 2387      275              280              285
      2388 Ala Phe Tyr Gly Val Thr Ser Gln Tyr Glu Ser Ser Glu Asn Met
E--> 2389 Thr
E--> 2390      290              295              300
      2391 Val Thr Cys Ser Thr Lys Val Cys Ser Phe Gly Lys Gln Val Val
E--> 2392 Glu
E--> 2393 305              310              315
E--> 2394 320
      2395 Lys Val Glu Thr Glu Tyr Ala Arg Phe Glu Asn Gly Arg Phe Val
E--> 2396 Tyr
E--> 2397              325              330              335
      2398 Arg Ile Asn Arg Ser Pro Met Cys Glu Tyr Met Ile Asn Phe Ile
E--> 2399 His
E--> 2400              340              345              350
      2401 Lys Leu Lys His Leu Pro Glu Lys Tyr Met Met Asn Ser Val Leu
E--> 2402 Glu
E--> 2403      355              360              365
      2404 Asn Phe Thr Ile Leu Leu Val Val Thr Asn Arg Asp Thr Gln Glu
E--> 2405 Thr
E--> 2406      370              375              380

```

RAW SEQUENCE LISTING

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DATE: 10/03/2001

TIME: 15:39:28

Input Set : A:\pto_vsk.txt

Output Set: N:\CRF3\10032001\I749728.raw

```

      2407 Leu Leu Cys Met Ala Cys Val Phe Glu Val Ser Asn Ser Glu His
E--> 2408 Gly
E--> 2409 385              390              395
E--> 2410 400
      2411 Ala Gln His His Ile Tyr Arg Leu Val Lys Asp
E--> 2412              405              410
      2413 <210> SEQ ID NO: 26
      2414 <211> LENGTH: 1233
      2415 <212> TYPE: DNA
      2416 <213> ORGANISM: Homo sapiens
W--> 2417 <220> FEATURE:
      2418 <221> NAME/KEY: CDS
      2419 <223> OTHER INFORMATION: (1)..(1236)
W--> 2420 <400> SEQUENCE: 26
E--> 2421 atg gaa agg atg agt gac tct gca gat aag cca att gac aat gat
      2422 gca 48
      2423 Met Glu Arg Met Ser Asp Ser Ala Asp Lys Pro Ile Asp Asn Asp
W--> 2424 Ala
W--> 2425 1              5              10              15
E--> 2426 gaa ggg gtc tgg agc ccc gac atc gag caa agc ttt cag gag gcc
      2427 ctg 96
      2428 Glu Gly Val Trp Ser Pro Asp Ile Glu Gln Ser Phe Gln Glu Ala
W--> 2429 Leu
W--> 2430              20              25              30
E--> 2431 gct atc tat cca cca tgt ggg agg agg aaa atc atc tta tca gac
      2432 gaa 144
      2433 Ala Ile Tyr Pro Pro Cys Gly Arg Arg Lys Ile Ile Leu Ser Asp
W--> 2434 Glu
W--> 2435              35              40              45
E--> 2436 ggc aaa atg tat ggt agg aat gaa ttg ata gcc aga tac atc aaa
      2437 ctc 192
      2438 Gly Lys Met Tyr Gly Arg Asn Glu Leu Ile Ala Arg Tyr Ile Lys
W--> 2439 Leu
W--> 2440              50              55              60
E--> 2441 agg aca ggc aag acg agg acc aga aaa cag gtg tct agt cac att
      2442 cag 240
      2443 Arg Thr Gly Lys Thr Arg Thr Arg Lys Gln Val Ser Ser His Ile
W--> 2444 Gln
W--> 2445 65              70              75
E--> 2446 80
E--> 2447 gtt ctt gcc aga agg aaa tct cgt gat ttt cat tcc aag cta aag
      2448 gat 288
      2449 Val Leu Ala Arg Arg Lys Ser Arg Asp Phe His Ser Lys Leu Lys
W--> 2450 Asp
W--> 2451              85              90              95
E--> 2452 cag act gca aag gat aag gcc ctg cag cac atg gcg gcc atg tcc
      2453 tca 336
      2454 Gln Thr Ala Lys Asp Lys Ala Leu Gln His Met Ala Ala Met Ser
W--> 2455 Ser

```

RAW SEQUENCE LISTING

DATE: 10/03/2001

PATENT APPLICATION: US/09/749,728

TIME: 15:39:28

Input Set : A:\pto_vsk.txt

Output Set: N:\CRF3\10032001\I749728.raw

```

W--> 2456          100          105          110
E--> 2457 gcc cag atc gtc tcg gcc act gcc att cat aac aag ctg ggg ctg
      2458 cct 384
      2459 Ala Gln Ile Val Ser Ala Thr Ala Ile His Asn Lys Leu Gly Leu
W--> 2460 Pro
W--> 2461          115          120          125
E--> 2462 ggg att cca cgc ccg acc ttc cca ggg gcg ccg ggg ttc tgg ccg
      2463 gga 432
      2464 Gly Ile Pro Arg Pro Thr Phe Pro Gly Ala Pro Gly Phe Trp Pro
W--> 2465 Gly
W--> 2466          130          135          140
E--> 2467 atg att caa aca ggg cag cca gga tcc tca caa gac gtc aag cct
      2468 ttt 480
      2469 Met Ile Gln Thr Gly Gln Pro Gly Ser Ser Gln Asp Val Lys Pro
W--> 2470 Phe
W--> 2471 145          150          155
E--> 2472 160
E--> 2473 gtg cag cag gcc tac ccc atc cag cca gcg gtc aca gcc ccc att
      2474 cca 528
      2475 Val Gln Gln Ala Tyr Pro Ile Gln Pro Ala Val Thr Ala Pro Ile
W--> 2476 Pro
W--> 2477          165          170          175
E--> 2478 ggg ttt gag cct gca tcg gcc cca gct ccc tca gtc cct gcc tgg
      2479 caa 576
      2480 Gly Phe Glu Pro Ala Ser Ala Pro Ala Pro Ser Val Pro Ala Trp
W--> 2481 Gln
W--> 2482          180          185          190
E--> 2483 ggt cgc tcc att ggc aca acc aag ctt cgc ctg gtg gaa ttt tca
      2484 gct 624
      2485 Gly Arg Ser Ile Gly Thr Thr Lys Leu Arg Leu Val Glu Phe Ser
W--> 2486 Ala
W--> 2487          195          200          205
E--> 2488 ttt ctc gag cag cag cga gac cca gac tcg tac aac aaa cac ctc
      2489 ttc 672
      2490 Phe Leu Glu Gln Gln Arg Asp Pro Asp Ser Tyr Asn Lys His Leu
W--> 2491 Phe
W--> 2492          210          215          220
E--> 2493 gtg cac att ggg cat gcc aac cat tct tac agt gac cca ttg ctt
      2494 gaa 720
      2495 Val His Ile Gly His Ala Asn His Ser Tyr Ser Asp Pro Leu Leu
W--> 2496 Glu
W--> 2497 225          230          235
E--> 2498 240
E--> 2499 tca gtg gac att cgt cag att tat gac aaa ttt cct gaa aag aaa
      2500 ggt 768
      2501 Ser Val Asp Ile Arg Gln Ile Tyr Asp Lys Phe Pro Glu Lys Lys
W--> 2502 Gly
W--> 2503          245          250          255
E--> 2504 ggc tta aag gaa ctg ttt gga aag ggc cct caa aat gcc ttc ttc

```

RAW SEQUENCE LISTING

DATE: 10/03/2001

PATENT APPLICATION: US/09/749,728

TIME: 15:39:28

Input Set : A:\pto_vsk.txt

Output Set: N:\CRF3\10032001\I749728.raw

```

2505 ctc      816
2506 Gly Leu Lys Glu Leu Phe Gly Lys Gly Pro Gln Asn Ala Phe Phe
W--> 2507 Leu
W--> 2508                260                265                270
E--> 2509 gta aaa ttc tgg gct gat tta aac tgc aat att caa gat gat gct
2510 ggg      864
2511 Val Lys Phe Trp Ala Asp Leu Asn Cys Asn Ile Gln Asp Asp Ala
W--> 2512 Gly
W--> 2513                275                280                285
E--> 2514 gct ttt tat ggt gta acc agt cag tac gag agt tct gaa aat atg
2515 aca      912
2516 Ala Phe Tyr Gly Val Thr Ser Gln Tyr Glu Ser Ser Glu Asn Met
W--> 2517 Thr
W--> 2518                290                295                300
E--> 2519 gtc acc tgt tcc acc aaa gtt tgc tcc ttt ggg aag caa gta gta
2520 gaa      960
2521 Val Thr Cys Ser Thr Lys Val Cys Ser Phe Gly Lys Gln Val Val
W--> 2522 Glu
W--> 2523 305                310                315
E--> 2524 320
E--> 2525 aaa gta gag acg gag tat gca agg ttt gag aat ggc cga ttt gta
2526 tac     1008
2527 Lys Val Glu Thr Glu Tyr Ala Arg Phe Glu Asn Gly Arg Phe Val
W--> 2528 Tyr
W--> 2529                325                330                335
E--> 2530 cga ata aac cgc tcc cca atg tgt gaa tat atg atc aac ttc atc
2531 cac     1056
2532 Arg Ile Asn Arg Ser Pro Met Cys Glu Tyr Met Ile Asn Phe Ile
W--> 2533 His
W--> 2534                340                345                350
E--> 2535 aag ctc aaa cac tta cca gag aaa tat atg atg aac agt gtt ttg
2536 gaa     1104
2537 Lys Leu Lys His Leu Pro Glu Lys Tyr Met Met Asn Ser Val Leu
W--> 2538 Glu
W--> 2539                355                360                365
E--> 2540 aac ttc aca att tta ttg gtg gta aca aac agg gat aca caa gaa
2541 act     1152
2542 Asn Phe Thr Ile Leu Leu Val Val Thr Asn Arg Asp Thr Gln Glu
W--> 2543 Thr
W--> 2544                370                375                380
E--> 2545 cta ctc tgc atg gcc tgt gtg ttt gaa gtt tca aat agt gaa cac
2546 gga     1200
2547 Leu Leu Cys Met Ala Cys Val Phe Glu Val Ser Asn Ser Glu His
W--> 2548 Gly
W--> 2549 385                390                395
E--> 2550 400
E--> 2551 gca caa cat cat att tac agg ctt gta aag gac
2552                1233
2553 Ala Gln His His Ile Tyr Arg Leu Val Lys Asp

```

RAW SEQUENCE LISTING

DATE: 10/03/2001

PATENT APPLICATION: US/09/749,728

TIME: 15:39:28

Input Set : A:\pto_vsk.txt

Output Set: N:\CRF3\10032001\I749728.raw

```

W--> 2554          405          410
      2555 <210> SEQ ID NO: 27
      2556 <211> LENGTH: 427
      2557 <212> TYPE: PRT
      2558 <213> ORGANISM: Homo sapiens
W--> 2559 <400> SEQUENCE: 27
      2560 Ile Thr Ser Asn Glu Trp Ser Ser Pro Thr Ser Pro Glu Gly Ser
E--> 2561 Thr
E--> 2562   1          5          10          15
      2563 Ala Ser Gly Gly Ser Gln Ala Leu Asp Lys Pro Ile Asp Asn Asp
E--> 2564 Ala
E--> 2565          20          25          30
      2566 Glu Gly Val Trp Ser Pro Asp Ile Glu Gln Ser Phe Gln Glu Ala
E--> 2567 Leu
E--> 2568          35          40          45
      2569 Ala Ile Tyr Pro Pro Cys Gly Arg Arg Lys Ile Ile Leu Ser Asp
E--> 2570 Glu
E--> 2571          50          55          60
      2572 Gly Lys Met Tyr Gly Arg Asn Glu Leu Ile Ala Arg Tyr Ile Lys
E--> 2573 Leu
E--> 2574   65          70          75
E--> 2575   80
      2576 Arg Thr Gly Lys Thr Arg Thr Arg Lys Gln Val Ser Ser His Ile
E--> 2577 Gln
E--> 2578          85          90          95
      2579 Val Leu Ala Arg Arg Lys Ala Arg Glu Ile Gln Ala Lys Leu Lys
E--> 2580 Asp
E--> 2581          100          105          110
      2582 Gln Ala Ala Lys Asp Lys Ala Leu Gln Ser Met Ala Ala Met Ser
E--> 2583 Ser
E--> 2584          115          120          125
      2585 Ala Gln Ile Ile Ser Ala Thr Ala Phe His Ser Ser Met Ala Leu
E--> 2586 Ala
E--> 2587          130          135          140
      2588 Arg Gly Pro Gly Arg Pro Ala Val Ser Gly Phe Trp Gln Gly Ala
E--> 2589 Leu
E--> 2590 145          150          155
E--> 2591 160
      2592 Pro Gly Gln Ala Gly Thr Ser His Asp Val Lys Pro Phe Ser Gln
E--> 2593 Gln
E--> 2594          165          170          175
      2595 Thr Tyr Ala Val Gln Pro Pro Leu Pro Leu Pro Gly Phe Glu Ser
E--> 2596 Pro
E--> 2597          180          185          190
      2598 Ala Gly Pro Ala Pro Ser Pro Ser Ala Pro Pro Ala Pro Pro Trp
E--> 2599 Gln
E--> 2600          195          200          205
      2601 Gly Arg Ser Val Ala Ser Ser Lys Leu Trp Met Leu Glu Phe Ser
E--> 2602 Ala

```

RAW SEQUENCE LISTING

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```

E--> 2603      210                215                220
      2604 Phe Leu Glu Gln Gln Gln Asp Pro Asp Thr Tyr Asn Lys His Leu
E--> 2605 Phe
E--> 2606 225                230                235
E--> 2607 240
      2608 Val His Ile Gly Gln Ser Ser Pro Ser Tyr Ser Asp Pro Tyr Leu
E--> 2609 Glu
E--> 2610                245                250                255
      2611 Ala Val Asp Ile Arg Gln Ile Tyr Asp Lys Phe Pro Glu Lys Lys
E--> 2612 Gly
E--> 2613                260                265                270
      2614 Gly Leu Lys Asp Leu Phe Glu Arg Gly Pro Ser Asn Ala Phe Phe
E--> 2615 Leu
E--> 2616                275                280                285
      2617 Val Lys Phe Trp Ala Asp Leu Asn Thr Asn Ile Glu Asp Glu Gly
E--> 2618 Ser
E--> 2619      290                295                300
      2620 Ser Phe Tyr Gly Val Ser Ser Gln Tyr Glu Ser Pro Glu Asn Met
E--> 2621 Ile
E--> 2622 305                310                315
E--> 2623 320
      2624 Ile Thr Cys Ser Thr Lys Val Cys Ser Phe Gly Lys Gln Val Val
E--> 2625 Glu
E--> 2626                325                330                335
      2627 Lys Val Glu Thr Glu Tyr Ala Arg Tyr Glu Asn Gly His Tyr Ser
E--> 2628 Tyr
E--> 2629                340                345                350
      2630 Arg Ile His Arg Ser Pro Leu Cys Glu Tyr Met Ile Asn Phe Ile
E--> 2631 His
E--> 2632                355                360                365
      2633 Lys Leu Lys His Leu Pro Glu Lys Tyr Met Met Asn Ser Val Leu
E--> 2634 Glu
E--> 2635      370                375                380
      2636 Asn Phe Thr Ile Leu Gln Val Val Thr Asn Arg Asp Thr Gln Glu
E--> 2637 Thr
E--> 2638 385                390                395
E--> 2639 400
      2640 Leu Leu Cys Ile Ala Tyr Val Phe Glu Val Ser Ala Ser Glu His
E--> 2641 Gly
E--> 2642                405                410                415
      2643 Ala Gln His His Ile Tyr Arg Leu Val Lys Glu
E--> 2644                420                425
      2645 <210> SEQ ID NO: 28
      2646 <211> LENGTH: 1281
      2647 <212> TYPE: DNA
      2648 <213> ORGANISM: Homo sapiens
W--> 2649 <220> FEATURE:
      2650 <221> NAME/KEY: CDS
      2651 <223> OTHER INFORMATION: (1)..(1284)

```

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/749,728

DATE: 10/03/2001

TIME: 15:39:28

Input Set : A:\pto_vsk.txt

Output Set: N:\CRF3\10032001\I749728.raw

W--> 2652 <400> SEQUENCE: 28

VERIFICATION SUMMARY

PATENT APPLICATION: US/09/749,728

DATE: 10/03/2001

TIME: 15:39:29

Input Set : A:\pto_vsk.txt

Output Set: N:\CRF3\10032001\I749728.raw

L:5 M:250 E: Invalid Numeric Identifier, INVALID IDENTIFIER
L:0 M:201 W: Mandatory field data missing, TITLE INVENTION
L:10 M:270 C: Current Application Number differs, Replaced Application Number
L:11 M:271 C: Current Filing Date differs, Replaced Current Filing Date
L:30 M:283 W: Missing Blank Line separator, <400> field identifier
L:32 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:1
M:332 Repeated in SeqNo=1
L:118 M:283 W: Missing Blank Line separator, <220> field identifier
L:121 M:283 W: Missing Blank Line separator, <400> field identifier
L:122 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:45 SEQ:2
L:125 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:2
L:126 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:2
M:254 Repeated in SeqNo=2
L:130 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:2
L:131 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:2
L:135 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:2
L:136 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:2
L:140 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:2
L:141 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:2
L:145 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:2
L:146 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:2
L:151 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:2
L:152 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:2
L:156 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:2
L:157 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:2
L:161 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:2
L:162 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:2
L:166 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:2
L:167 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:2
L:171 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:2
L:172 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:2
L:177 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:2
L:178 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:2
L:182 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:2
L:183 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:2
L:187 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:2
L:188 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:2
L:192 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:2
L:193 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:2
L:197 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:2
L:198 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:2
L:203 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:2
L:204 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:2
L:208 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:2
L:209 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:2
L:213 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:2
L:214 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:2
L:218 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:2

VERIFICATION SUMMARY

PATENT APPLICATION: US/09/749,728

DATE: 10/03/2001

TIME: 15:39:29

Input Set : A:\pto_vsk.txt

Output Set: N:\CRF3\10032001\I749728.raw

L:219 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:2
L:223 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:2
L:224 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:2
L:229 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:2
L:230 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:2
L:234 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:2
L:235 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:2
L:239 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:2
L:240 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:2
L:244 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:2
L:245 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:2
L:249 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:2
L:250 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:2
L:260 M:283 W: Missing Blank Line separator, <400> field identifier
L:262 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:3
M:332 Repeated in SeqNo=3
L:305 M:283 W: Missing Blank Line separator, <220> field identifier
L:308 M:283 W: Missing Blank Line separator, <400> field identifier
L:309 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:45 SEQ:4
M:254 Repeated in SeqNo=4
L:379 M:283 W: Missing Blank Line separator, <400> field identifier
L:381 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:5
M:332 Repeated in SeqNo=5
L:433 M:283 W: Missing Blank Line separator, <220> field identifier
L:436 M:283 W: Missing Blank Line separator, <400> field identifier
L:437 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:45 SEQ:6
M:254 Repeated in SeqNo=6
L:522 M:283 W: Missing Blank Line separator, <400> field identifier
L:524 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:7
M:332 Repeated in SeqNo=7
L:557 M:283 W: Missing Blank Line separator, <220> field identifier
L:560 M:283 W: Missing Blank Line separator, <400> field identifier
L:561 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:45 SEQ:8
M:254 Repeated in SeqNo=8
L:615 M:283 W: Missing Blank Line separator, <400> field identifier
L:617 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:9
M:332 Repeated in SeqNo=9
L:686 M:283 W: Missing Blank Line separator, <220> field identifier
L:689 M:283 W: Missing Blank Line separator, <400> field identifier
L:690 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:45 SEQ:10
M:254 Repeated in SeqNo=10
L:802 M:283 W: Missing Blank Line separator, <400> field identifier
L:804 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:11
M:332 Repeated in SeqNo=11
L:895 M:283 W: Missing Blank Line separator, <220> field identifier
L:898 M:283 W: Missing Blank Line separator, <400> field identifier
L:899 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:45 SEQ:12
M:254 Repeated in SeqNo=12
L:1047 M:283 W: Missing Blank Line separator, <400> field identifier

VERIFICATION SUMMARY

PATENT APPLICATION: US/09/749,728

DATE: 10/03/2001

TIME: 15:39:29

Input Set : A:\pto_vsk.txt

Output Set: N:\CRF3\10032001\I749728.raw

L:1049 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:13
M:332 Repeated in SeqNo=13
L:1153 M:283 W: Missing Blank Line separator, <220> field identifier
L:1156 M:283 W: Missing Blank Line separator, <400> field identifier
L:1157 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:45 SEQ:14
M:254 Repeated in SeqNo=14
L:1326 M:283 W: Missing Blank Line separator, <400> field identifier
L:1328 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:15
M:332 Repeated in SeqNo=15
L:1403 M:283 W: Missing Blank Line separator, <220> field identifier
L:1406 M:283 W: Missing Blank Line separator, <400> field identifier
L:1407 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:45 SEQ:16
M:254 Repeated in SeqNo=16
L:1529 M:283 W: Missing Blank Line separator, <400> field identifier
L:1531 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:17
M:332 Repeated in SeqNo=17
L:1627 M:283 W: Missing Blank Line separator, <220> field identifier
L:1630 M:283 W: Missing Blank Line separator, <400> field identifier
L:1631 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:45 SEQ:18
M:254 Repeated in SeqNo=18
L:1789 M:283 W: Missing Blank Line separator, <400> field identifier
L:1791 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:19
M:332 Repeated in SeqNo=19
L:1898 M:283 W: Missing Blank Line separator, <220> field identifier
L:1901 M:283 W: Missing Blank Line separator, <400> field identifier
L:1902 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:45 SEQ:20
M:254 Repeated in SeqNo=20
L:2076 M:283 W: Missing Blank Line separator, <400> field identifier
L:2078 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:21
M:332 Repeated in SeqNo=21
L:2124 M:283 W: Missing Blank Line separator, <220> field identifier
L:2127 M:283 W: Missing Blank Line separator, <400> field identifier
L:2128 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:45 SEQ:22
M:254 Repeated in SeqNo=22
L:2203 M:283 W: Missing Blank Line separator, <400> field identifier
L:2205 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:23
M:332 Repeated in SeqNo=23
L:2251 M:283 W: Missing Blank Line separator, <220> field identifier
L:2254 M:283 W: Missing Blank Line separator, <400> field identifier
L:2255 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:45 SEQ:24
M:254 Repeated in SeqNo=24
L:2330 M:283 W: Missing Blank Line separator, <400> field identifier
L:2332 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:25
M:332 Repeated in SeqNo=25
L:2417 M:283 W: Missing Blank Line separator, <220> field identifier
L:2420 M:283 W: Missing Blank Line separator, <400> field identifier
L:2421 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:45 SEQ:26
M:254 Repeated in SeqNo=26
L:2559 M:283 W: Missing Blank Line separator, <400> field identifier

VERIFICATION SUMMARY

PATENT APPLICATION: US/09/749,728

DATE: 10/03/2001

TIME: 15:39:29

Input Set : A:\pto_vsk.txt

Output Set: N:\CRF3\10032001\I749728.raw

L:2561 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:27
M:332 Repeated in SeqNo=27
L:2649 M:283 W: Missing Blank Line separator, <220> field identifier
L:2652 M:283 W: Missing Blank Line separator, <400> field identifier
L:2653 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:45 SEQ:28
M:254 Repeated in SeqNo=28
L:2796 M:283 W: Missing Blank Line separator, <400> field identifier
L:2798 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:29
M:332 Repeated in SeqNo=29
L:2888 M:283 W: Missing Blank Line separator, <220> field identifier
L:2891 M:283 W: Missing Blank Line separator, <400> field identifier
L:2892 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:45 SEQ:30
M:254 Repeated in SeqNo=30
L:3040 M:283 W: Missing Blank Line separator, <400> field identifier
L:3042 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:31
M:332 Repeated in SeqNo=31
L:3271 M:283 W: Missing Blank Line separator, <220> field identifier
L:3274 M:283 W: Missing Blank Line separator, <400> field identifier
L:3275 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:45 SEQ:32
M:254 Repeated in SeqNo=32
L:3648 M:283 W: Missing Blank Line separator, <220> field identifier
L:3651 M:283 W: Missing Blank Line separator, <400> field identifier
L:3652 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:21 SEQ:33
L:3663 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:20 SEQ:34
L:3673 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:20 SEQ:35
L:3683 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:20 SEQ:36
L:3693 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:23 SEQ:37
L:3703 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:22 SEQ:38
L:3713 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:24 SEQ:39
L:3723 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:24 SEQ:40
L:3733 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:19 SEQ:41
L:3743 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:22 SEQ:42
L:3753 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:24 SEQ:43
L:3763 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:20 SEQ:44
L:3773 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:18 SEQ:45
L:3783 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:18 SEQ:46
L:3793 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:20 SEQ:47
L:3803 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:20 SEQ:48
L:3813 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:20 SEQ:49
L:3823 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:20 SEQ:50
L:3931 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:61
M:332 Repeated in SeqNo=61
L:4116 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:63
M:332 Repeated in SeqNo=63
L:4270 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:65
M:332 Repeated in SeqNo=65
L:4423 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:67
M:332 Repeated in SeqNo=67
L:4524 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:69

VERIFICATION SUMMARY

DATE: 10/03/2001

PATENT APPLICATION: US/09/749,728

TIME: 15:39:29

Input Set : A:\pto_vsk.txt

Output Set: N:\CRF3\10032001\I749728.raw

M:332 Repeated in SeqNo=69

L:4801 M:258 W: Mandatory Feature missing, <220> FEATURE:
L:4801 M:258 W: Mandatory Feature missing, <223> OTHER INFORMATION:
L:4809 M:258 W: Mandatory Feature missing, <220> FEATURE:
L:4809 M:258 W: Mandatory Feature missing, <223> OTHER INFORMATION:
L:4817 M:258 W: Mandatory Feature missing, <220> FEATURE:
L:4817 M:258 W: Mandatory Feature missing, <223> OTHER INFORMATION:
L:4825 M:258 W: Mandatory Feature missing, <220> FEATURE:
L:4825 M:258 W: Mandatory Feature missing, <223> OTHER INFORMATION:
L:4833 M:258 W: Mandatory Feature missing, <220> FEATURE:
L:4833 M:258 W: Mandatory Feature missing, <223> OTHER INFORMATION:
L:4841 M:258 W: Mandatory Feature missing, <220> FEATURE:
L:4841 M:258 W: Mandatory Feature missing, <223> OTHER INFORMATION:
L:4849 M:258 W: Mandatory Feature missing, <220> FEATURE:
L:4849 M:258 W: Mandatory Feature missing, <223> OTHER INFORMATION:
L:4857 M:258 W: Mandatory Feature missing, <220> FEATURE:
L:4857 M:258 W: Mandatory Feature missing, <223> OTHER INFORMATION:
L:4865 M:258 W: Mandatory Feature missing, <220> FEATURE:
L:4865 M:258 W: Mandatory Feature missing, <223> OTHER INFORMATION:
L:4873 M:258 W: Mandatory Feature missing, <220> FEATURE:
L:4873 M:258 W: Mandatory Feature missing, <223> OTHER INFORMATION:
L:4879 M:320 E: (1) Wrong Nucleic Acid Designator, NUMBER OF INVALID KEYS:2
L:4879 M:252 E: No. of Seq. differs, <211>LENGTH:Input:19 Found:20 SEQ:80

This application file contains additional errors !
Only the first 1000 errors are shown above !